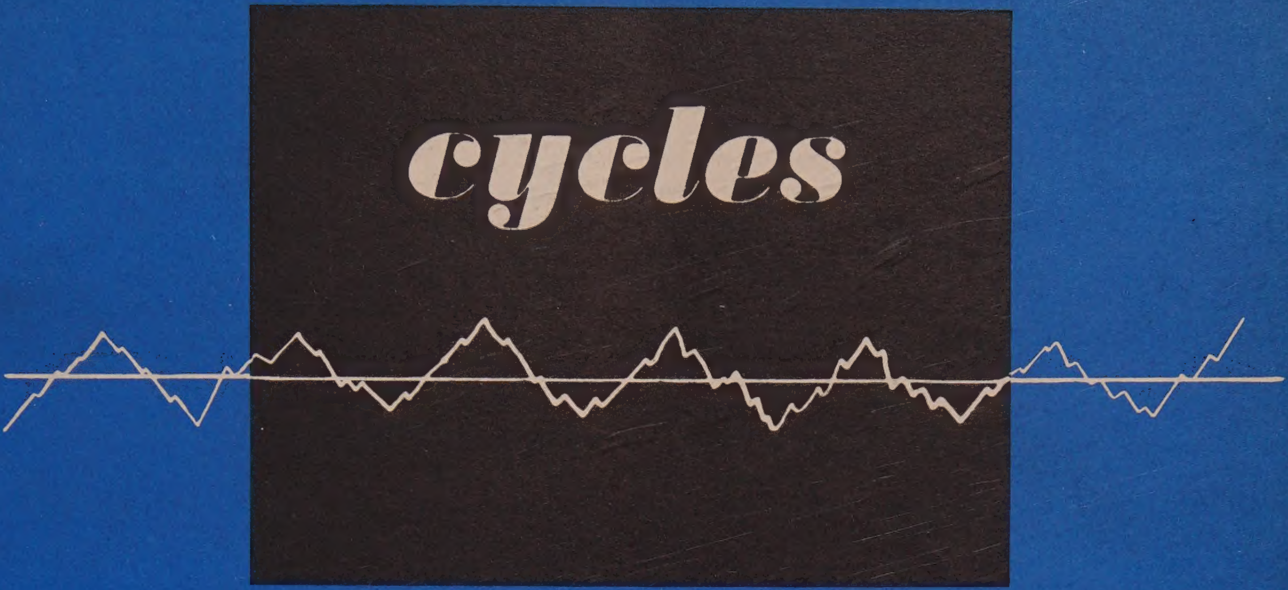
cycles



August 1959

FOUNDATION FOR THE STUDY OF CYCLES
New York, New York

CYCLES

AUGUST 1959, VOLUME X, NUMBER 8

THE OFFICIAL BULLETIN OF THE FOUNDATION FOR THE STUDY OF CYCLES

Director: EDWARD R. DEWEY

Editor, Cycles: GERTRUDE SHIRK

Manager, Membership: GERTRUDE E. ROESSLE

Editorial Advisor: C. JAMES McLEMORE

INDEX

BY DEPARTMENT

Cycle Round-Up
  Aluminum Production 184
  Automobile Factory Sales. 184
  Barometric Pressure at New York City. . . . 189
  Bond Yields 184
  Copper Prices 187
  Corn Prices 184
  Cotton Consumption. 184
  Egg Prices 188
  Liabilities of Failures 185
  Manufacturing Production. 184, 186
  Oats Prices 184, 186
  Residential Building. 184, 188
  Stock Prices. 184
  Sunspot Numbers 185
  Unemployment. 184
  Wheat Prices. 184

Director's Letter. 171

Geisinger Indicator. 190

Letters. 181

Research by Staff
  The Stock Market Projection:
    Audit of the 11-Year Cycle 173
  Cycles the Science--II: Possible Causes . . 176
  Rye Prices. 177

Research by Others
  Cycles in Religion. 178
  Cycles in World Dominance 172
  Seasonal Cycles in Plants 179

Questions & Answers. 180

BY SUBJECT

Business
  Aluminum Production 184
  Automobile Factory Sales. 184
  Cotton Consumption. 184
  Industrial Production 190
  Manufacturing Production. 184, 186
  Residential Building. 184, 188
  Unemployment. 184

Commodity Prices
  Copper. 187
  Corn. 184
  Eggs. 188
  Oats. 184, 186
  Rye 177
  Wheat 184

Finance
  Bond Yields 184
  Liabilities of Failures 185
  Stock Market Trend. 182
  Stock Prices. 184
  The Stock Market Projection:
    Audit of the 11-Year Cycle 173
  The 17.12-Week Stock Cycle. 181

History
  Cycles in Religion. 178
  Cycles in World Dominance 172

Science
  Barometric Pressure at New York City. . . . 189
  Potatoes. 181
  Seasonal Cycles in Plants 179
  Sunspot Numbers 185

It is with deep regret that we announce the death of the Honorable Charles Camsell who was a member of the Committee of the Foundation for the Study of Cycles.

Dr. Camsell was born in 1876 at Fort Laird in the Northwest Territories. He was educated at St. John's College in Winnipeg and at Manitoba University; later he studied at Queen's, Harvard, and Massachusetts Institute of Technology.

Famous for his work as an explorer and geologist in the northern latitudes, and as an administrator in all fields of natural resources, conservation and development, Dr. Camsell received many honorary degrees, fellowships, medals and prizes. He held offices in national and international engineering, geographical and mining societies.

Dr. Camsell told the story of his life in *Son of the North,* a book which is becoming a Canadian classic.

Cycles IS PUBLISHED BY THE FOUNDATION FOR THE STUDY OF CYCLES MONTHLY AT THE FOUNDATION'S OFFICE AT EAST BRADY, PENNSYLVANIA. SUBSCRIPTION RATE $10.00 A YEAR. ENTERED AS SECOND CLASS MATTER AT THE POST OFFICE AT **East Brady, Pennsylvania,** WITH ADDITIONAL ENTRY AT DEXTER, MICHIGAN. PUBLICATION OFFICE, 680 WEST END AVENUE, NEW YORK 25, NEW YORK.

Director's Letter

Dear Member:

One of the highlights of the month was a visit with George Marechal, the man who made that remarkable 16-year stock market forecast (1933-1949) that I printed for you recently.

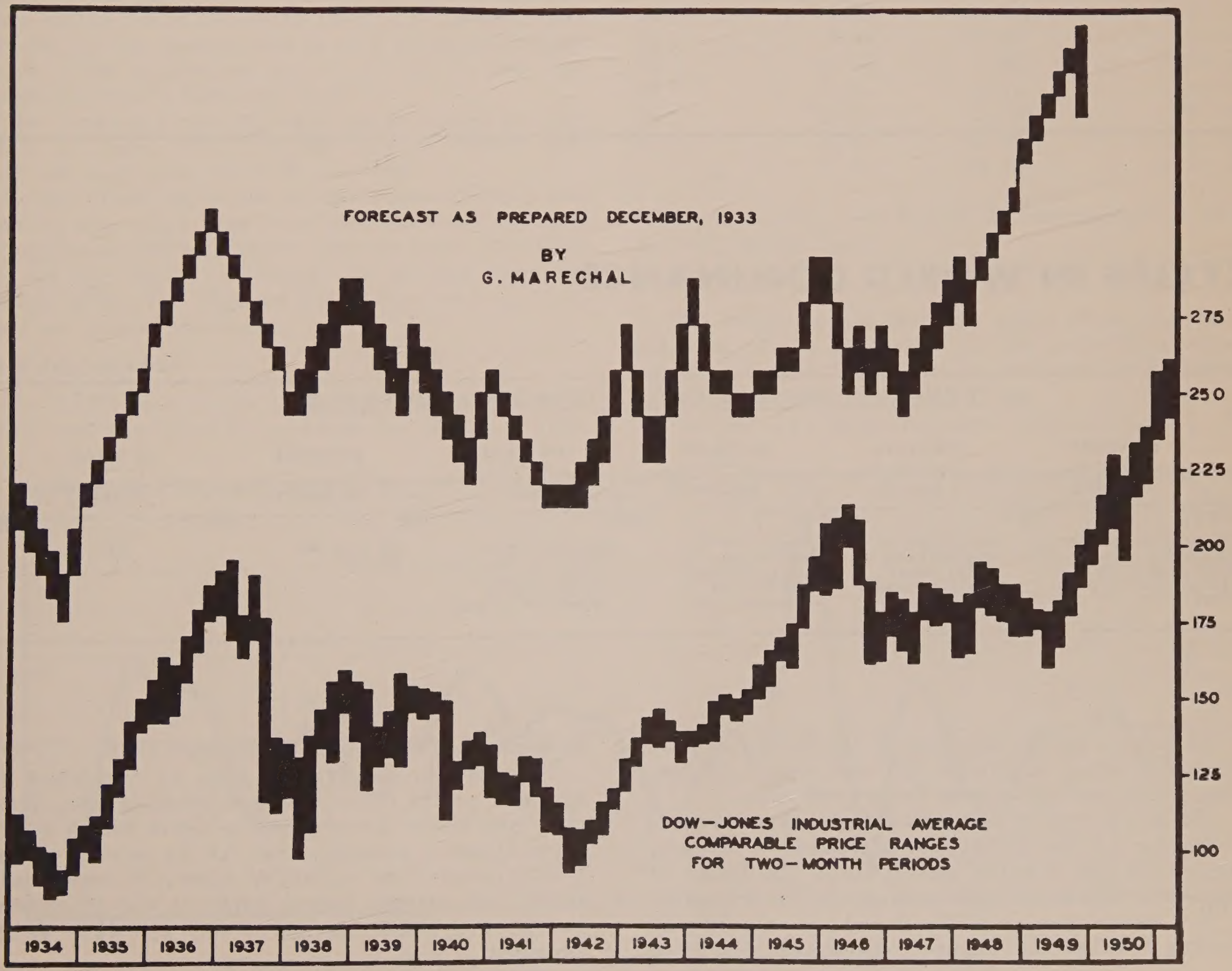
Incidentally, the chart we printed in the February 1959 issue accidentally left off the last year of the original forecast. I am therefore reprinting the forecast in full below. I got it several years ago from Garfield Drew (the author of *New Methods for Profit in the Stock Market*) who had had the chart in his possession since it was made originally.

Mr. Marechal is a French Canadian, over 80 years old, and as spry as a cricket. His interests include oil and water color painting, musical composition, and song writing as well as the stock market and charting. He showed me many color photographs of his paintings and some of his other original work in the arts.

I gathered that he would like to reveal his methods to me if I would undertake to do something with them. They apply, he said, equally well to monthly, weekly, or daily figures, to any stock market index, and to individual stocks. What a golden opportunity!

I told him that I'd like nothing better than to master his methods if I had the time, but that I was having trouble enough learning something about cycles in the 24-hours a day that God had alloted me, and that, as his methods did not involve cycles, they were a bit out of my field. He answered that there were more cycles involved than one would think. I was glad to know this, but I didn't glean that even complete mastery of his methods would give me the key to the mystery of cycles.

I think I told you something of his methods



some years ago about the time I first printed the chart shown on the previous page. At all events, at that time Mr. Marechal was good enough to send me the original work sheets from which this forecast was made. These work sheets consisted of a chart of stock market prices from 1897 or so through 1932 from which he had developed a maze of "resistance lines." These upper and lower resistance lines were projected into the future. Then, from this grid of intersecting diagonal criss-crossed lines, he had made and plotted his forecasts. All the turning points of the forecast came at places where these resistance lines crossed, but there were scores and scores of intersections that he had not picked as being significant.

It was a bit like the old German with six sons. "Every time a boy, eh?" said a friend.

"No, no, no!" said the old German. "Hunards of times dere was nuttings!"

Which intersections would produce something, which "nuttings", was Marechal's secret.

He expressed great scorn for those people who plot resistance lines in pencil and then rub them out and replace them as the situation unfolds. He always draws his lines, he says, in ink.

He has clearly discovered a great deal about how a series of figures behaves; his methods clearly throw a great deal of light upon the future. It would be a shame to have this knowledge die with him. Something should be done about it. And, as he doesn't look as if he had more than about 20 or 25 years left to him, something should be done reasonably soon.

In the course of our conversation I asked Marechal if he knew *why* things behaved this way. His answer was yes. If he really does know—as distinct from merely *thinking* he does—that is another great secret.

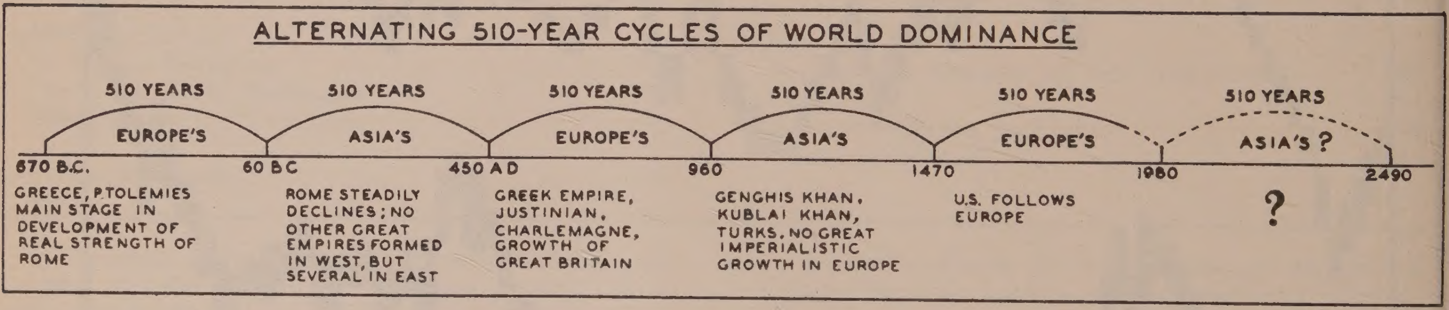
One of the things at which I always marvel is the fact that there are those structures in a series of figures—let us say, for example, the market—and that there are also, at the same time, rhythmic cycles. The inference is that there must be some law regarding cycle interrelationship that enables both phenomena to exist simultaneously.

Cordially yours,

Edward R. Dewey

Director

CYCLES IN WORLD DOMINANCE


ALTERNATING 510-YEAR CYCLES OF WORLD DOMINANCE
510 YEARS
EUROPE'S
510 YEARS
ASIA'S
510 YEARS
EUROPE'S
510 YEARS
ASIA'S
510 YEARS
EUROPE'S
510 YEARS
ASIA'S ?
670 B.C.
60 BC
450 AD
960
1470
1980
2490
GREECE, P. TOLEMIES MAIN STAGE IN DEVELOPMENT OF REAL STRENGTH OF ROME
ROME STEADILY DECLINES; NO OTHER GREAT EMPIRES FORMED IN WEST, BUT SEVERAL IN EAST
GREEK EMPIRE, JUSTINIAN, CHARLEMAGNE, GROWTH OF GREAT BRITAIN
GENGHIS KHAN, KUBLAI KHAN, TURKS, NO GREAT IMPERIALISTIC GROWTH IN EUROPE
U.S. FOLLOWS EUROPE
?

The chart above diagrams a possible cycle in world dominance. It shows 510 year spans of dominance alternating between Europe and Asia.

The cycle was observed by Professor Raymond K. Wheeler of the University of Kansas. Professor Wheeler is the scholar who devised the Index of Battles we use in our analysis of cycles in war.

The chart was used by Donald S. Cooley in "Cycles Predict the Future" which was published by *Mechanix Illustrated* in October 1944.

Two of the interpetations of the idea diagrammed on the chart that are possible are: first, that the chart represents a cycle which may be significant; second, that it is merely chance that history has occurred thus. No one really knows, but current events point to the interesting possibility that the curve may continue as diagrammed.

Research by Staff

THE STOCK MARKET PROJECTION :

AUDIT OF THE 11-YEAR CYCLE

BY G. F. SHIRK

This month we have audited the 11-year cycle in he stock market. The work is part of our continung audit of the long cycles found in the stock arket and included in the combination of cycles nd underlying trend which we have projected to he year 2000.

It is this combination which we use almost every onth in the Round-Up to show the comparison beween the background cyclic force within the market nd the current actual figures. (See page 184 for his month's comparison.)

he Cycle

There is a picture of the cycle across the botom of the page. The more refined length is 10.83 ears, if one wants to split hairs. This length is ased on the addition of 15 years of figures, and study of the longer series of railroad stock rices. (The figures we use in our projection are tandard & Poor's Combined Index.)

The current crest of this cycle comes at the iddle of June, 1959. At the time of crest, the ycle has amplitude of 5.9% of trend.

In the chart below the actual figures which are hown by the solid line have been smoothed so that he confusing random forces are not seen. The last lot on the chart includes the actual figures hrough 1958. The figures which are used in this tudy are annual averages.

he Combination

The 10.83-year cycle is combined with 10 other ycles and the underlying trend to obtain a picture of the basic structure of the market, based on past experience.

This analysis was originally made way back in 1944, and since 1956 we have been reviewing the work and including the last 15 years' figures.

The following table summarizes the conclusions of the original study and the changes we have made since 1956.

Original Length	Revised Length	Typical Strength	Time of Ideal Top
4.89	*4.89	3.5%	1959.30
5.50	*5.50	7.0%	1958.00
6.07	5.91	6.4%	1958.69
6.86	7.00	6.9%	1957.90
8.17	8.17	4.7%	1954.16
9.2	9.18	17.1%	1955.66
11.0	10.83	5.9%	1959.45
12.0	12.8	10.9%	1953.90
14.5	*14.5	12.25%	1957.50
21.0	22.0	21.6%	1952.60
	27.0	14.3%	1956.50

*Not yet Audited. The Length As Determined in 1944 Is Still Being Used.

The Projection

The chart on the next two pages shows the combination of the 11 cycles and the underlying trend compared to the actual annual averages of Standard & Poor's Combined Index.

You are of course familiar with this chart. It

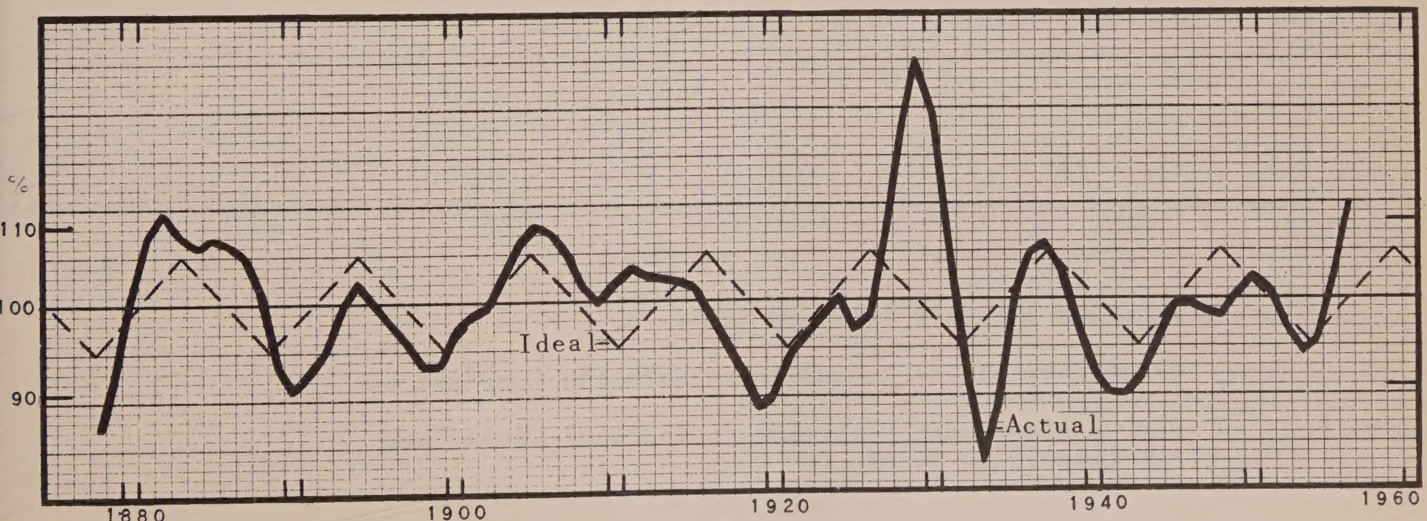


Fig.1. The 10.83 Year Cycle in Standard & Poor's Combined Index

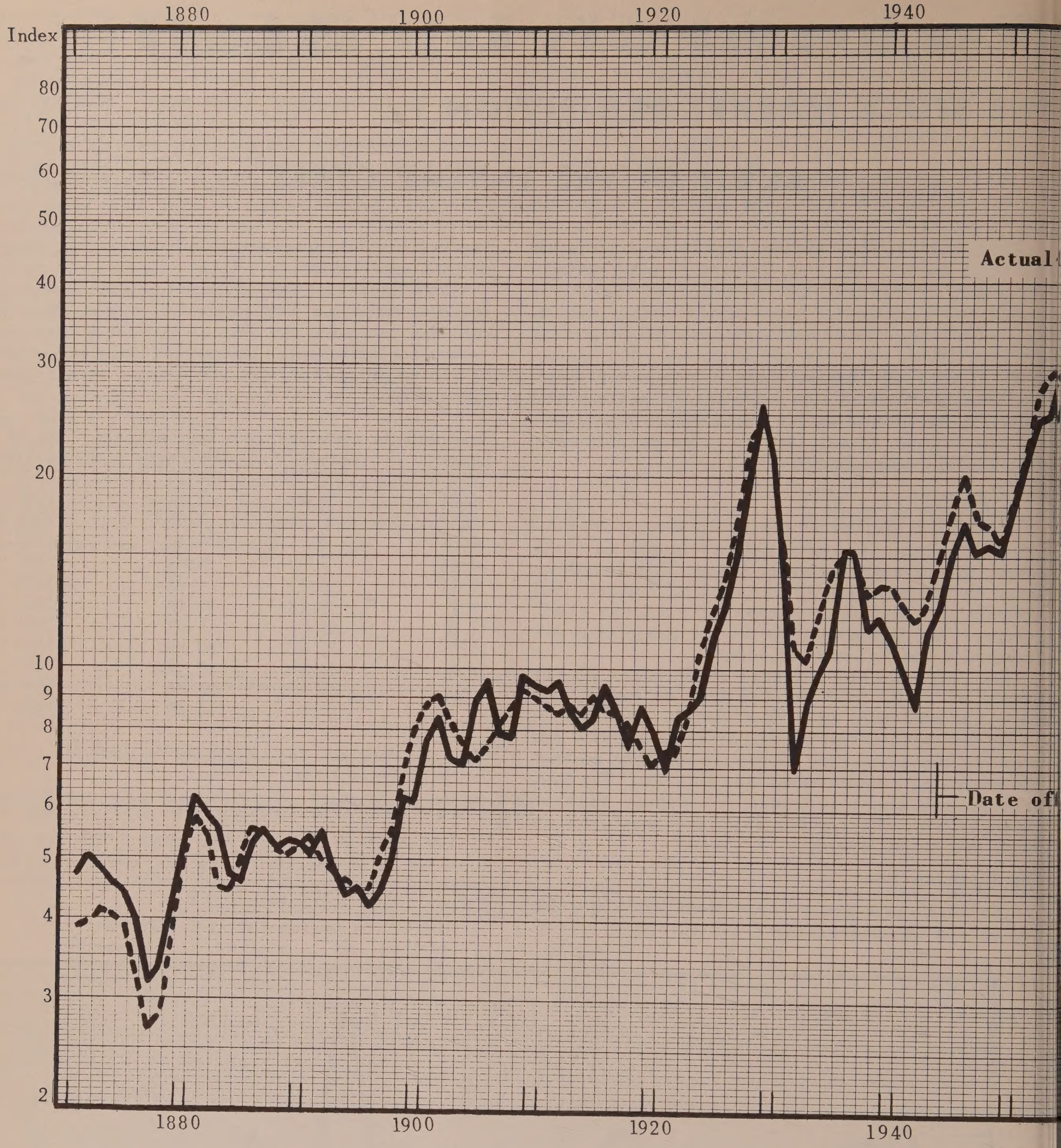
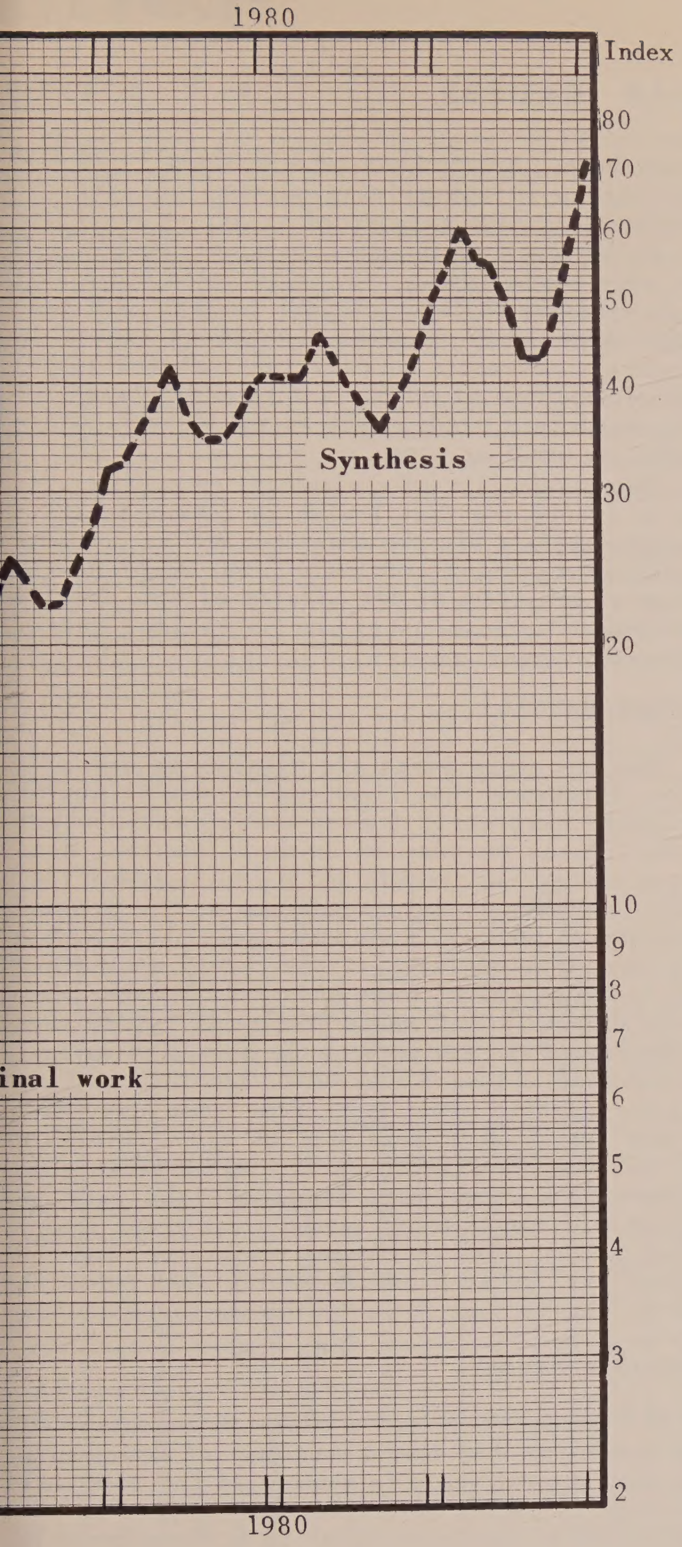


Fig. 2 Standard & Poor's Combined Index

Comparison of the Actual Index with the Combination

The Combination (Synthesis) Includes 11 Cycles and the Underlying Trend



would take a fairly close study to see the difference caused by the changes we have made, and there is no drastic change in our conclusions because of our recent work with this series.

According to the cycles which have been present in the stock market in the past, a downturn in the market is overdue.

Interpretation

The current downward direction of the projection is a point which should be discussed because of the apparent misunderstanding of some of our members.

In our July report on page 160 we printed a letter from a man who complained that the market is not moving with our projection.

On the opposite chart you can see that occasional divergence between the actual and projected line is to be expected. It is the correspondence over the long haul that counts. (And, if anybody wants to sell me a perfect market system for $10 a year, they have an easy sale!)

But, you see, what we are trying to do is to find out if the cycles are actually present; if they are significant; if they can be expected to continue. *Our concern is with the cycles per se.*

The correspondence between the actual and combination line over the entire period gives us confidence. The results we have had in checking each of the cycles included gives us confidence. We do not expect to pinpoint turns in the market with cycles four years and over in length.

If the combination in the future is as good as in the past—which is another way of saying, if the cycles are real and continue—then certainly the work has been worthwhile. The time of the original work is marked on the chart so that you can see what has happened since.

How High is High?

In the April report we discussed the current "high" level of the market. The chart that was used in that story (but corrected for purchasing power) is reprinted on pages 182-183. The point was that current levels are dangerously high.

From the low year, 1949, when the Index averaged 15.23, to the high year, 1956, when the Index averaged 46.62, the average price more than tripled. This would have been a profit of over 200%. You could have sold and taken the profit. If you had not sold, but waited until May, 1959, for instance, the question is: Would the additional 25% profit—for which you had to wait three years—been worth the greatly added risk of losing even the original 200%? This is a personal question, and is one that has to be thrashed out by the individual.

But it must be true that many people are motivated by just two emotions—greed and fear—and poor judgment on a point like the one above is the reason for the old saw about the bulls and the bears making money, while the hogs get slaughtered.

CYCLES, THE SCIENCE

PART II: POSSIBLE CAUSES

BY E. R. DEWEY

In the previous article of this series I told you that the hypothesis that guided the course of our work was the notion that there is "something out there" that tends to *force* animal life, plant life, weather, and perhaps other geophysical phenomena such as earthquakes, into rhythmic patterns. "Out there" could be in the sky, in the atmosphere, or inside the earth.

I explained that a *hypothesis* was much more tenuous than a *theory;* that a hypothesis was merely a tentative supposition provisionally adopted to explain certain facts, and to guide in the investigation of others.

I told you that, as yet, we have no theory.

I ended the article by asking what could this "something out there" be? This article will consider some possibilities.

The Moon?

The moon? Yes, to a limited extent. Much marine and littoral (shore line) life is dominated by the 12 1/2-hour tidal rhythm. Certain wild life activity is influenced by the 25-hour cycle of moonlight. Even the 29 1/2-day full moon cycle has various human repercussions including, seemingly, an increase of amorousness. At all events we have an increased number of births at nine months after full moon in comparison with nine months after new moon (except where the Christmas holidays upset the schedule!).

The Sun?

The sun? Yes, All human life—all life, in fact—is dominated by the 24-hour and the 12-month solar cycle.

The sun also shows an eleven-plus-year cycle of spottedness. Many attempts have been made to link this eleven-plus-year solar cycle with similar eleven-plus-year cycles here on earth. There may in truth be some connection, but except for the association between sunspots and the variations of terrestrial magnetism, the case for a connection is not proved. In fact, where data are available over long periods of time, if the data are correct, we may say that the case *against* an association is very convincing. I have a paper on this subject in preparation.

Sunspots show cycles other than the major 11-year one. These other cycles are often of lengths observed on earth. They would, however, seem to be the *results* of still more fundamental causes—that is, the result of a common cause rather than themselves the original cause.

However, at best, the moon and the sun explain only a few out of dozens and dozens of observed cycle wave lengths. What else is "out there"?

The Planets?

The planets? The planets are most certainly "out there," but do they have anything to do with the "tides in the affairs of men"? *As yet, no evidence has been discovered by us, or presented to us, to convince us that they do.* However, we are very open minded on the subject and would welcome evidence in favor of this concept. How elegant it would be if cycles could be linked to planetary movements or planetary interrelationships! As these movements and interrelationships are completely predictable we would have, overnight, an exact science.

This possibility of a planetary cause of cycles is so intriguing that I wish to return to it in another article. In the meantime, let us consider another "something out there" that might be the cause of the tides in the affairs of men. I refer of course to cosmic rays or ultra-long energy waves from outer space.

Energy Waves?

Just as radio waves are similar to but of a lower frequency than light waves, may it not be possible that still longer energy waves might exist? Waves measurable in days, months, even years instead of seconds and micro-seconds? Yes, this is possible; but, according to the present theories of physics, such waves would have such a low energy potential that they could not effect any chemical change here on earth. Whether they could affect "life," whatever that is, would seem to be beyond the province of the physicist to say.

Granted, to save argument, that ultra-long electro-magnetic energy waves from outer space with a wave length of 9 years, let us say, could have no terrestrial effect, is it not possible that energy of shorter wave lengths might come in bursts, the bursts being spaced at rhythmic intervals? Such an idea would meet resistance from the physicists, as no known cause for such behavior can be adduced, but it is not impossible.

Variable Stars?

Dr. Leonard W. Wing, a research associate of the Foundation, has done a good deal of work during the past several years in support of the idea that terrestrial cycles have their counterpart in the variations of variable stars. In a recent article I myself gave you one or two examples that I had observed and thought dramatic. Could variable stars be the cause of cycles? Or, to put it another way, are cycles part of the web and woof of the universe, to which we *and* the variable stars conform? It is too soon to say.

The next section of this article will expand some of the individual possibilities that have been mentioned here.

RYE PRICES

By G. F. Shirk

There does not appear to be a cycle in the neighborhood of two years in the price of rye. Because some agricultural series have a cycle of about two years in length, we checked the price of rye, more or less expecting to find one. However, our search so far has been futile.

We worked with the average monthly price of No. 2 rye, wholesale, at Minneapolis from 1923 to date.

There is not even a good seasonal pattern in rye prices, and this is unusual for an agricultural series. There is a vague tendency toward a 12-month cycle, but it is not steady enough to be reliable.

The chart across the bottom of the page shows the high and low months of each year since 1923. The solid line diagrams the high months year by year, and the broken line diagrams the low months. (The figures used are deviations from a 13-month moving average.)

The timing of the low months is a little more regular than the timing of the high months, but both exhibit a tendency toward a shifting pattern, or cycles of other lengths.

Beginning with the year 1936 there have been 23 highs. Of these, nine have fallen in either January or February, with five in January and four in February. The rest are scattered over the year.

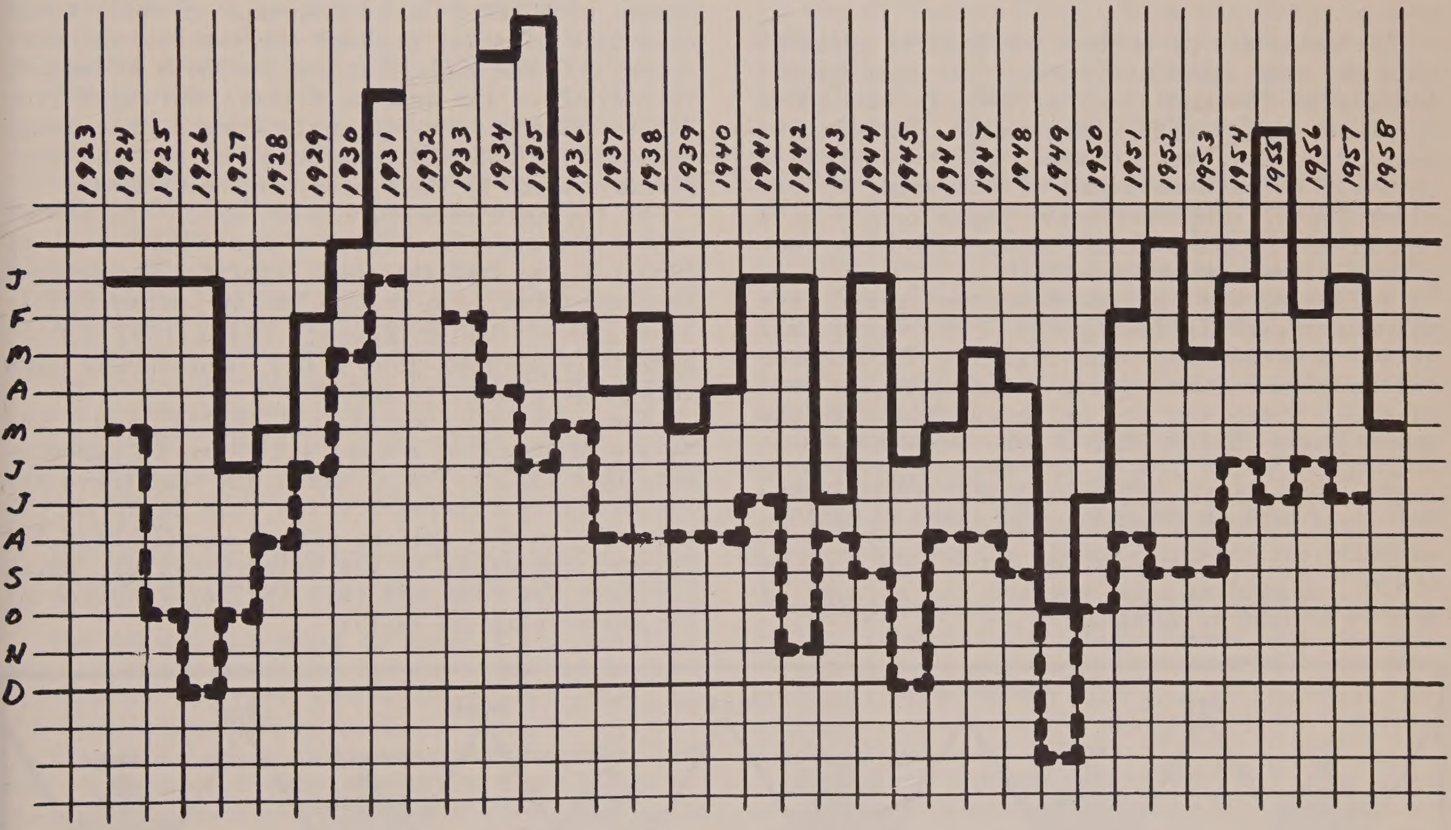
Over the same period there have been 22 lows. 15 of the lows have fallen in the late summer months, July, August, or September. Three times the low came in July, eight times it came in August, and four times it came in September.

Of the yearly highs, far less than half came consistently in any one month. In fact, less than half of the highs came in any two months combined.

Also, less than half of the lows came in any given month, although there is some tendency for the lows to come in the late summer.

We did not find enough of a repetitive pattern in either the 12-month or the 24-month area to justify further work at this time.

Many members have expressed interest in rye prices, and although this is a completely negative report, we can only relate the facts as we find them.



A 12-MONTH TIME CHART OF RYE PRICES

Research by Others

CYCLES IN RELIGION

By Arthus Louis Joquel II

The great religious teachers of the world appear to have lived during peaks of a cycle of 625 years, which can be traced over a period of more than three thousand years.*

A further study of this subject, however, reveals that there are a number of prominent individuals or groups which do not seem to correspond to this cycle. While they are not of the significance of the others, they deserve consideration; and it seems that there is a supplementary cycle of 625 years in the advent of religions which will adequately cover the problem.

In brief, the main cycle is as follows:

1250 B.C.—Moses and Akhnaton
625 B.C.—Confucius, Lao-Tze, Zoroaster, Gautama Buddha
** —Jesus
625 A.D.—Mohammed
1250 A.D.—Thomas Aquinis and Francis of Assisi
1875 A.D.—Christian Science, Latter-Day Saints, Bahá'ı

The secondary cycle does not involve individuals who came immediately after the time of the founder of the religion, or even in their own lifetime, as St. Paul, for example. Rather, its peaks fall half-way between, and constitute a revival, or rejuvenation, or restating of the older faith. These secondary peaks center on a new group or individual, not necessarily one primarily concerned with religion.

Following the outline described above, the secondary peak following 1250 B.C. would fall at 937 B.C. Although the religion of Akhnaton had vanished by then, being overcome by the cult of Amon, Moses was now being succeeded by the Hebrew prophet Elijah (Elias), who was the earliest of the line which make up a large portion of the Old Testament books. Most authorities agree in placing Elijah in the 9th century, and certainly not later than the 8th century.

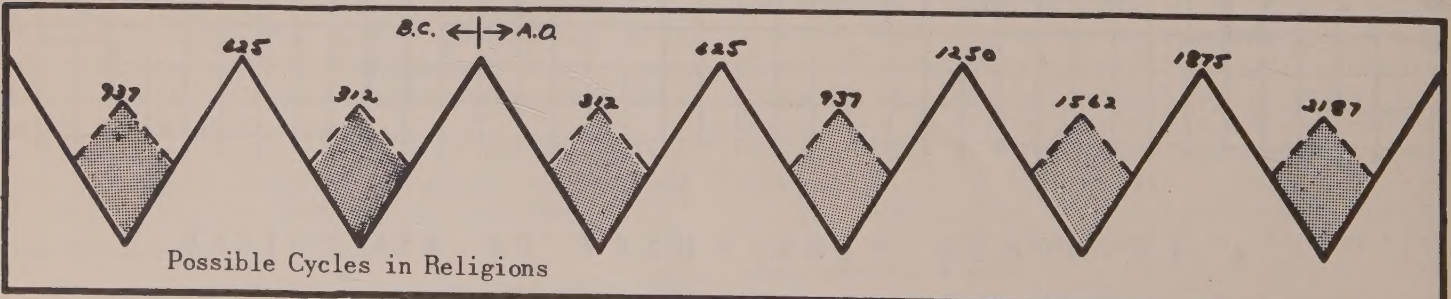
The next peak would fall at 312 B.C.; and falling almost squarely across this is Mencius (Meng-tze), who lived 372-289 B.C. A student of a grandson of Confucius, Mencius was a restater of the doctrine of the great Chinese moralist. Also, very close to this time, King Asoka (273-232 B.C.) ruled in India. Converted to Buddhism, he did more than any other person to spread the tenets of this faith throughout Asia.

There were many successors to the faith of Jesus. Perhaps the most promenent group are those known as the Ante-Nicene Fathers, who center around the next date of the cycle--312 A.D. Also to be included here is Aurelius Augustinius, better known as St. Augustine (354-430 A.D.), who perhaps did more than anyone else at this period to formulate the doctrines of Christianity.

The next peak, which would follow the promulgation of the Islamic faith by Mohammed, comes at 937 A.D. There were a large number of able rulers of Abbasid Caliphate, none of which touch this date exactly; perhaps the two men who most nearly fill the qualifications are Harun Al-Rashid, the caliph of the *Arabian Nights,* who ruled from 785 to 809 A.D., and Mamun the Great, whose reign from 813 to 833 A.D. has been called "the most glorious epoch in the history of the caliphate."

At the next secondary peak, which centers at 1562 A.D., and which follows the primary peak of 1250 A.D., we find the great reformers who brought Protestantism into being. Martin Luther (1483-1546 A.D.), Ulrich Zwingli (1484-1531 A.D.), John Calvin (1509-1564 A.D.), and others make this point a definite one.

The next point would fall at 2187 A.D., and future students of cycles will have to investigate this for us. But it seems now that there are two definite 625-year cycles, the peaks of the secondary cycles falling almost exactly half-way between the peaks of the primary cycles, which indicate the rise and then the rejuvenation of the major religious faiths.



Possible Cycles in Religions

---

* See "The Cycle of the World's Great Religions," by A. L. Joquel in the April 1959 issue of *Cycles.*

** The birth of Jesus is now dated as 4 B.C. or 6 A.D., depending upon whether the account of Matthew or Luke is accepted.

SEASONAL CYCLES IN PLANTS

BY G. F. SHIRK

When a cycle is so evident that there is no question about its presence, the problem becomes one of cause. The question is what force acting upon whatever is being studied triggered a reaction in the subject, and by what physical mechanism the subject was enabled to react.

The October 1957 issue of *The Atlantic Monthly* carried an article by Sterling B. Hendricks of the Department of Agriculture on "The Clocks of Life." The article is about Hendricks' research on how plants bloom and seeds germinate.

This is the most rudimentary sort of seasonal cycle, the blooming of the chrysanthemum in the autumn, or the sprouting of the lettuce seed in the spring. But however simple it seems from the point of cycles, the problem of the cause, and the enabling mechanism is far from simple, or easily solved.

The chrysanthemum blooms in the fall, after the days have become short, but researchers have found that it is not the short day, but rather the long night, to which the plant responds. Many plants are long-night plants, and bloom only after the nights have lengthened. For instance, there are poinsettias about which people are continually asking the garden editor, "Why don't they bloom?"

The answer is that plants which require 13 hours (for instance) of darkness can have their flowering ability stopped by the interruption of the long night. A single ordinary light bulb burning half an hour in the middle of the night will effectively prevent the chrysanthemum from blooming. And the poinsettia, also.

Hendricks, working with Harry Borthwick, built a five-foot long prism spectograph through which they lighted plants. They found that the blooming of the long-night plants was inhibited most effectively by the red section of the spectrum.

Only some plants are long-night plants, however. Other plants which bloom when the nights are short can be made to flower by the red light of the spectrum.

The researchers demonstrated conclusively that both types of plants "see" the light and respond, or do not respond according to their nature.

The autumn flowering of mums is the simplest sort of seasonal cycle and its control by the application of light, or the absence of light, is the simplest sort of control.

(It is a long step to understanding why and how thousands of people exhibit a tendency to create the demand which raises the price of oats about every 26 months!)

Germination, as well as flowering, is partly a function of the amount and kind of light.

Lettuce seeds, experimented with by Eben and Vivian Toole were found to have the greatest percentage germination when exposed to red light, although one of every five seeds will germinate with no exposure to light at all. However, germination was definitely inhibited by infrared light. In the garden, red and infrared light are present at the same time and the effect of infrared is not apparent.

In the laboratory, however, the seeds will germinate, or not germinate depending upon whether the last exposure was to red, or infrared light.

As the next step, it was found that flowering could be reversed by the use of infrared light.

That is, a long-night plant which had been stopped from flowering by exposure to light, could then be stimulated into flowering by exposure to infrared light. The article does not say, but this raises the interesting question of whether those annoying poinsettias could be likewise triggered into blooming with a little daily exposure to infrared light.

The scientists working with seeds found that the biological activity of the seed was connected with two pigment forms of the plant which react to the different light. When the seed becomes dormant, the pigment changed from the form which responds to light causing growth into an unresponsive form. When exposed again to red light, the pigment in the seed changed back into the biologically active form.

Hendricks is continuing this research by trying to isolate the pigments that control the response.

The problem of the response of plants and seeds, of birds and animals (including man), to the stimulus of the changing environment, even so simple a change as the length of the day, or the response to light, becomes increasingly complicated as the organism becomes increasingly complicated.

For instance, chickens go through a continuing process of response to light. The hypothalamus reacts on the pituitary which in turn reacts on the ovary. I imagine everyone has heard about the farmers leaving the light on to keep the chickens laying.

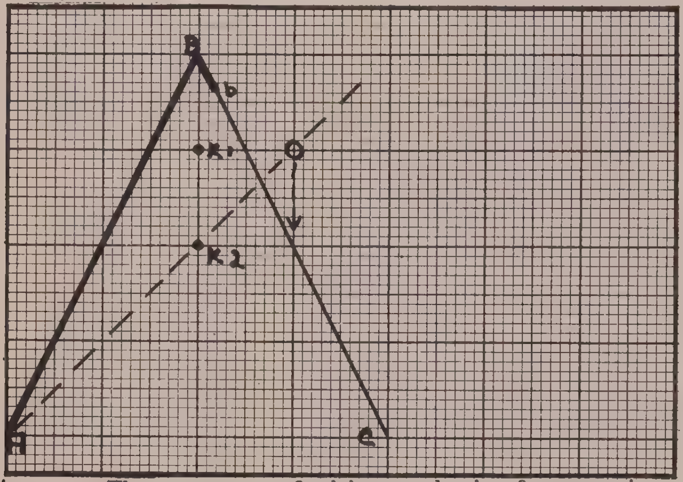
Hendricks' research is concerned with one corner of the big problem of life processes, the response of plants and seeds to the stimulus of light. The problem is intricately tied up with the basic day and night cycle, and the seasonal cycle that cuts across all of life.

Man is not immune to the cyclic forces that are present, whatever they may be. In fact, he cannot escape many cyclic forces that are self-evident, such as day and night with its resulting wakefulness and sleepiness. Perhaps he also cannot escape cyclic forces that are not so apparent.

Questions & Answers

Question: I do not understand the techniques used in "Adventures in Forecasting." In the January issue of *Cycles*, top right-hand side of page 16, would you kindly explain the following:

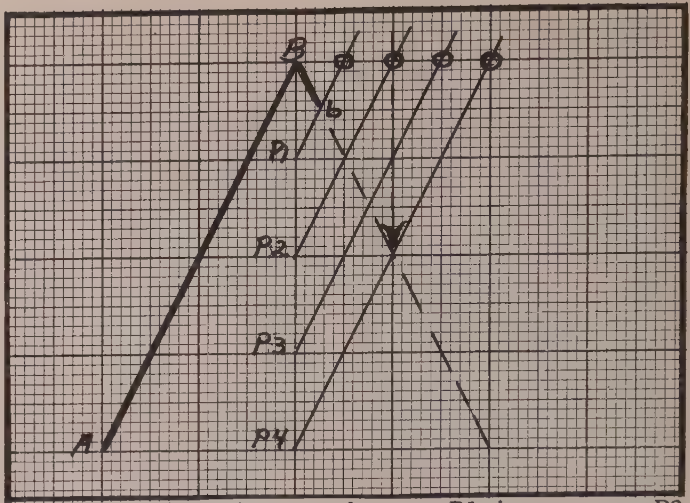
"If there is a reversal at point B, by the *time* the actual line has reached the *time* of the K2-K1 intersect, the curve would be (under ideal conditions) halfway through the next move, and the *level* of the curve would be at the half-way mark, or the K2 level."



Answer: The purpose of this study is forecasting. Hence we have to take past events and predict as best we can how they will repeat in timing and level, assuming that future developments will be only extensions of past cyclical events.

In the chart shown in the January issue, the A-B move was taken as the established event from which we wished to forecast. Had a record previous to A been available, predictions of A and B would have been possible, but in the diagram we can only watch the curve proceed until at B we have a reaction, if only to b, suggesting that a time for action may have been reached. (In passing, there is evidence that the S & P average is now in such a situation.) Thus the point B *is* a reversal and the question is: Will it show up as merely a hesitation in a longer move in the A-B direction or a reversal requiring action? In other words, on the assumption that the point B has been dated by an earlier intersect for timing, how important is the event? Here it becomes necessary to compare timing with level reached to determine the matter, but having no back information to help, we must watch developments and weigh the evidence given by the actual curve as it unfolds.

The diagram in the next column is a more useful one than that of the January article although basically the same. It makes possible a comparison between timing and level far from clear in the other. Since it is the A-B move we are proposing to forecast, we use the successive parallels thereto, marked P1, P2, etc., through K points and spot on the parallels intersects from the common K0 (or B) and designate them as P1 intersect, P2 intersect, etc. This, of course, is only one convenient way of projecting the A-B move by fractional parts both for timing and level and facilitating the comparison of these two aspects of prediction as the curve develops.



Under ideal rhythmic conditions, the curve should reach standard parallels at the intersect dates shown. These are an *average* toward which individual cases will tend to conform in spite of fluctuations on both sides. By evaluating these departures as they occur, we have a base line against which to measure strength or weakness.

Thus, at the P1 intersect date, we can expect the curve to be at the P2 parallel; at the P2 date on the P4 parallel; etc. It has been found that this standard relationship between timing and level becomes less and less reliable as we pass the 1/2 period but is so common up to that time as to be considered a valid prediction.

But let us suppose that the curve at the P1 date has not reacted as far as its normal P2 parallel. Strength is indicated, more time will be spent in the A-B direction and the B supposed climax is premature and only one step in the longer move. If, however, at the P1 date the curve has reacted the normal amount, it can be expected to continue reacting until the P2 date and the P4 parallel are reached. This is the critical period when termination of the reaction is *most probable* but, of course, subject to exceptions. When the reaction terminates, similar procedure applied to that move, or perhaps other more definitive procedures, may be used to forecast the recovery.

Exact correlation between intersect dates and parallel levels is not to be expected, since at the dates, minor rhythms enter to cause fluctuations in the curve. The dates are usually important, however, even if one is not able to evaluate them always. Hence the opportunist may well confine his activities to periods dated by important intersects.

June 15, 1959

H. K. Rutherford

Letters to the Editor

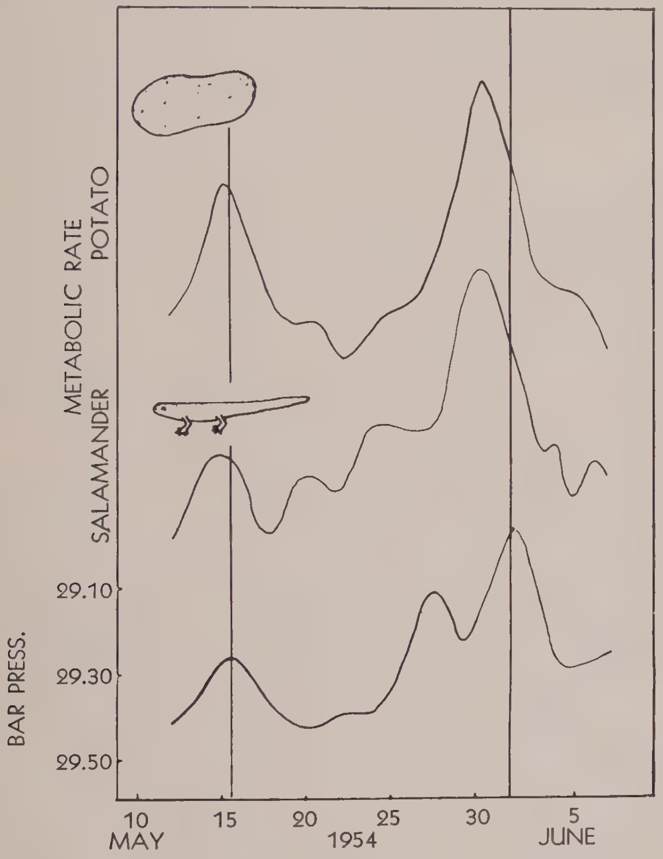
POTATOES

Several members have sent us clippings from newspapers and magazines about the work of Dr. Frank A. Brown, Jr., Morrison Professor of Biology at Northwestern University. (You will recall that our July issue had an article about Dr. Brown's work with the fiddler crab.)

A *New York Times* report of April 17 discussed a fascinating bit of knowledge which Dr. Brown discovered while working with potatoes.

It appears that potatoes can foretell the weather.

The chart below illustrates this whimsey. The chart is from the November 1958 issue of *Today at Northwestern,* and is reprinted with permission.



A MONTH-LONG STUDY SHOWED THAT THE METABOLIC RATES OF POTATOES (PLANT) AND SALAMANDERS (ANIMAL) VARIED INVERSELY WITH BAROMETRIC CHANGES (BOTTOM CURVE). BOTH TENDED TO ANTICIPATE THE PRESSURE CHANGES BY AN AVERAGE OF TWO DAYS.

It was found that a piece of potato, living in a sealed chamber under constant temperature, air pressure, humidity, and light appeared to know what the barometric pressure was going to be two days in advance. That is, the metabolic rate of the potato appeared to correlate (inversely) with the barometric pressure that developed two days later.

Daily, monthly, and yearly cycles were found in every organism studied. Dr. Brown suggests that the cycles are timed by forces as yet unknown, such as cosmic rays, background radiation and the earth's magnetic and gravitational field.

In the case of the potato, it is probably responding to geophysical force which is also and at the same time changing the weather.

THE 17.12-WEEK STOCK CYCLE

Dear Mr. Dewey:

I have been looking over the extensive chart of the 17.12-week cycle on page 264 of the October 1958 issue of *Cycles* and find it most intriguing in several respects. This cycle appears to be the baby in the cycle family of about 17.75 years and is 1/54th of that period. Nine of these short cycles give 35.434 months and eighteen of them give 5.907 years which is included in your analysis of the stock market series. These two cycles over the past 59 years in the S & P Industrial Average form an "M" shaped cycle in which they are in phase at their lows. These lows at 5.91 year intervals occur at 1932.6, 1938.5, 1944.4, 1950.3 and 1956.2.

In 8 of the 9 cycles of 35.434 months the lows of the "M" cycle correspond to the lows of the 17.12-week cycle. Of the 85 cycles of 17.12 weeks, the actual cycle data are in phase with the idealized cycle about 43 times; but of these 43 lows in phase 30 of them occur at the time of conjunction and for three cycles following the 35.434 month period. In other words the timing of the 17.12-week cycle is excellent at the time of conjunction but in general becomes more erratic with each succeeding cycle until the next conjunction.

This irregularity of the 17.12-week cycle preceding these key lows suggests that some special compound event occurs at these times which figuratively speaking pulls the short cycle back into phase.

Excelsior, Minn. D. S. Castle

Dear Mr. Castle:

Your letter is most interesting!

I had not realized that the 17.12-week cycle might be part of the 17.75-year complex.

With the help of people like you we'll get to the bottom of this cycle business yet.

E. R. D.

STOCK MARKET TREND

Dear Mr. Dewey:

I have studied with interest—and a certain amount of alarm the article "What's Ahead for Stock Prices?" on pages 77 thru 79 of the April issue of *Cycles*. It is difficult to draw any comforting conclusions from it as regards the course of the "market" for some years to come.

At the same time, I asked myself what influence the continued erosion in the value of the dollar might have had on the trend of stock prices, and the Stock Index. What would happen if the value of the Index each year were adjusted in terms of the 1958 dollar and its purchasing power as measured by the Consumer Price Index published by the U. S. Bureau of Labor Statistics?

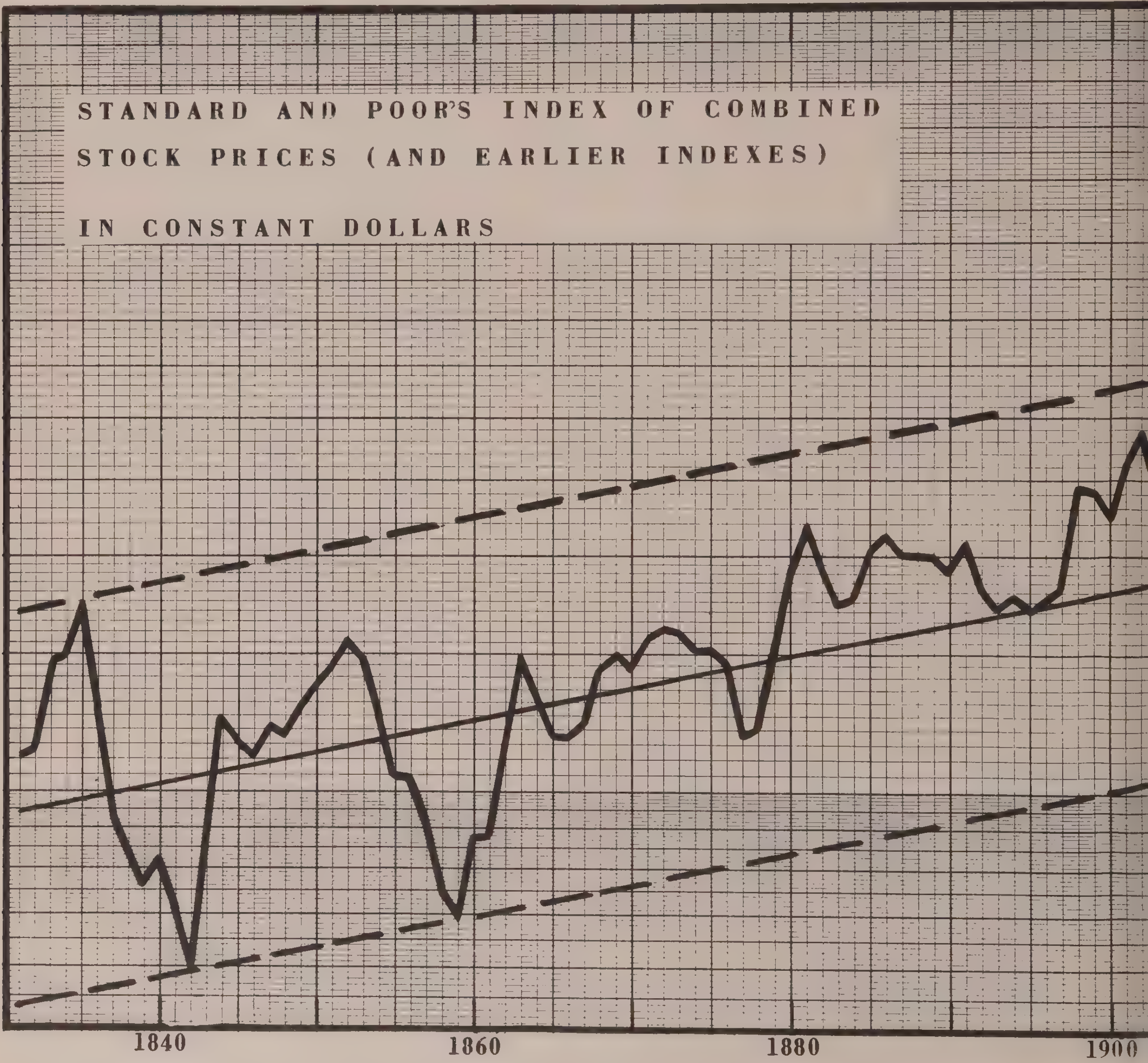
The attached chart is the result of this bit of research. To plot it, I used the year 1958 as equal to 100 and converted the Cost of Living Index to that basis, instead of the published basis of 1947-1949 equal to 100.

I then scaled off the Stock Index, year by year, and adjusted it to the Cost of Living, inflating, in effect, all values previous to 1958 to put them on a comparable basis.

The resulting chart is remarkably interesting—at least to its author—but no less disquieting. I have drawn an upper and lower limit on the chart, but I leave it to you to decide where the trend line should be placed.

Arlington, Va. Jack C. Pratt

Comment: Thank you for your interesting contribution to the work on the long-term trend of stock prices, and the relation of current prices to the trend.



I added a trend line to your chart simply by splitting the difference between the upper and lower envelope lines.

The general problem of the amount of dollar inflation in stock prices as compared to the increase in the intrinsic value of stocks is one that can develop into involved economic discussions, the convolutions of which are amazing. Often a direct approach such as you have used is best.

Putting the figures into constant dollars does not seem to change the conclusions of our April report. It does answer some questions and at the same time raises others.

On your constant dollar chart the current peak is still about the same distance above the trend as were the peaks of 1929 and 1835. You have added the consideration of the value of the dollar so that in the event of a drop in stock prices, coupled with a serious general deflation, the severity of the drop as shown by this method would be increased. This was the case in the 1920-21 period on your chart. In thinking about a possible decline from the current high level of stock prices, any deflation which might be expected must also be taken into account.

In other words, if you decide that the price line on the chart below might decline toward the lower envelope line by 1970, for instance, then you have to decide what part of the decline would be due to stock prices and what part to deflation.

If you think, however, that deflation is a political impossibility, and that however stock prices go, inflation goes on forever, than the level of the next bottom on the constant dollar chart may be higher—with respect to trend,—than the previous lows.

E. R. D.

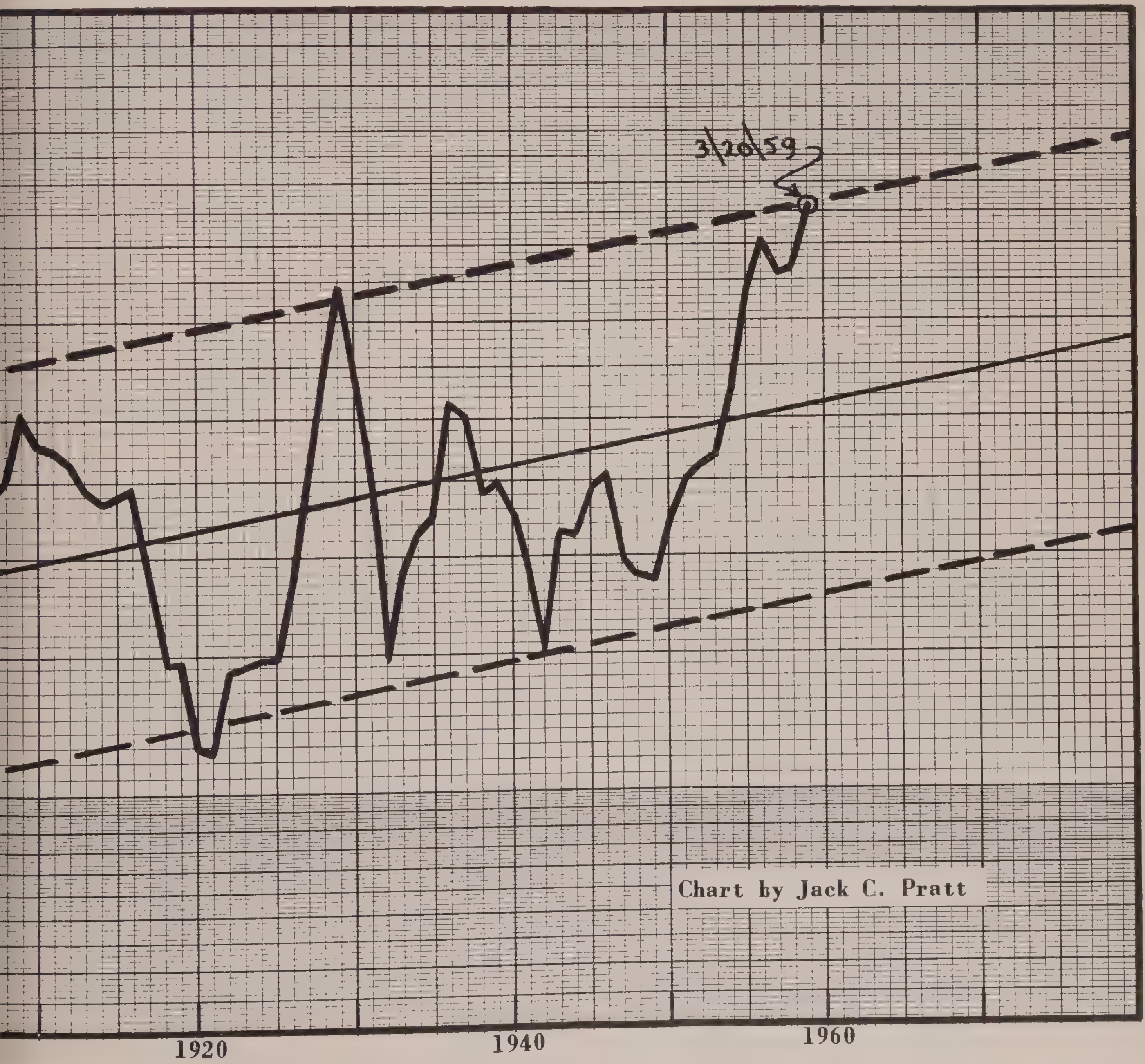


Chart by Jack C. Pratt

The Cycle Round-up

AUGUST 1959

LATE FIGURES

Series	Unit	Month	Amount
Aluminum Production	Thousand tons	March	155.2
Automobile Factory Sales	Thousand cars	April May	586r 547p
Bond Yields, Moody's All Groups	Per cent	May	4.60
Corn Prices, #3 yellow, Chicago	Cents per bushel	May	129.0
Cotton Consumption	Thousand bales	April	717
Manufacturing Production, F. R. B., Seasonally Adjusted	1947 - 49 = 100	May	155p
Oats Prices, #3 White, Chicago	Cents per bushel	May	69.4
Residential Building Contracts, F. W. Dodge	Million Dollars	April	1,831
Stock Prices, Standard & Poor's Combined Index	1941 - 43 = 10	May	57.96
Unemployment	Per cent	May	6.48
Wheat Prices, #1, Dark Northern Spring, Minneapolis	Cents per bushel	May	228.2

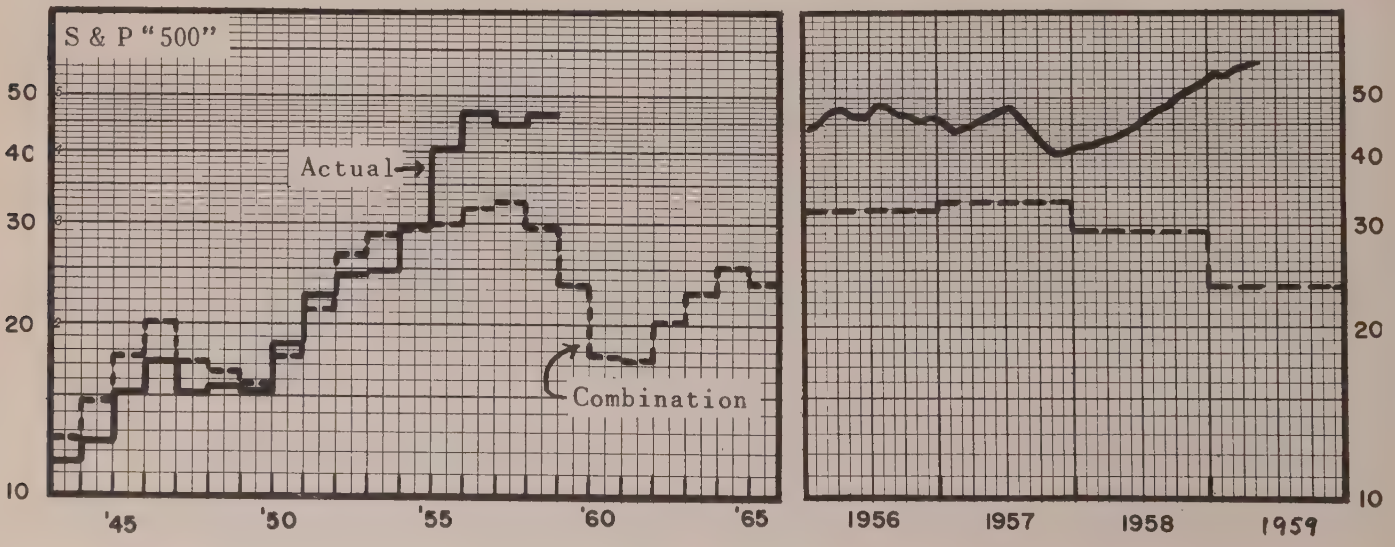
p - preliminary

STOCK PRICES

The broken line on the chart below is a combination of the 11 cycles outlined on page 173 of this issue.

The combination includes the 10.83-year cycle discussed on page 173 and is thus a slight revision of the previous combination.

The difference between this chart and the previous version is minor, however.



SUNSPOT NUMBERS

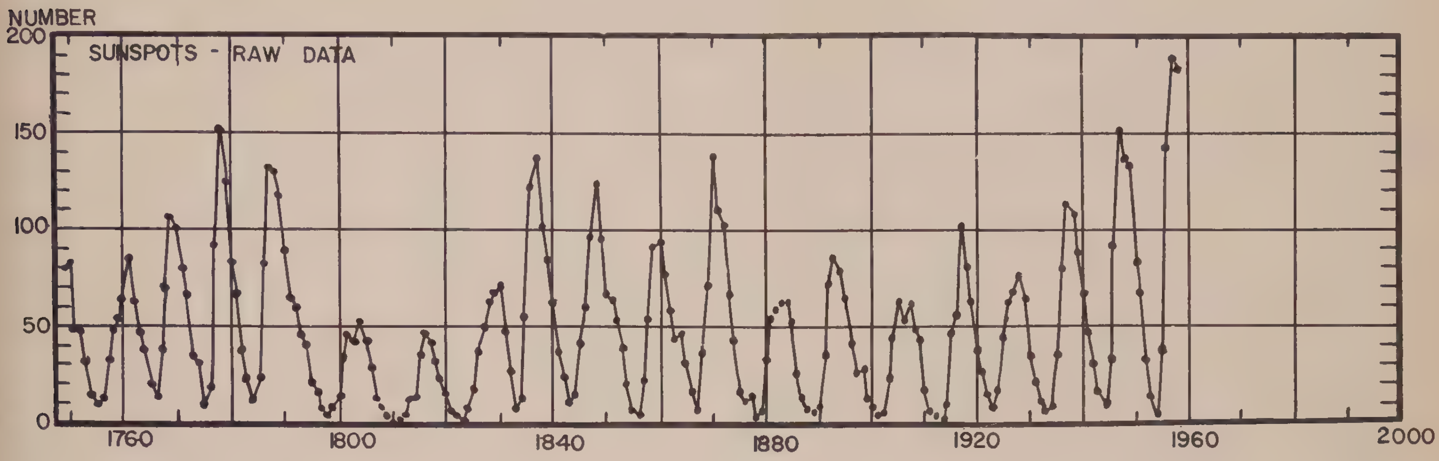
The chart below shows the yearly record of sunspot numbers since 1749. The figures are the average of the monthly sunspot averages.

The year 1957 was an all time high at 189.7. The highest month of the recent crest was 263 at October 1957.

The average for the year 1958 was 182.1.

Recent monthly figures are:

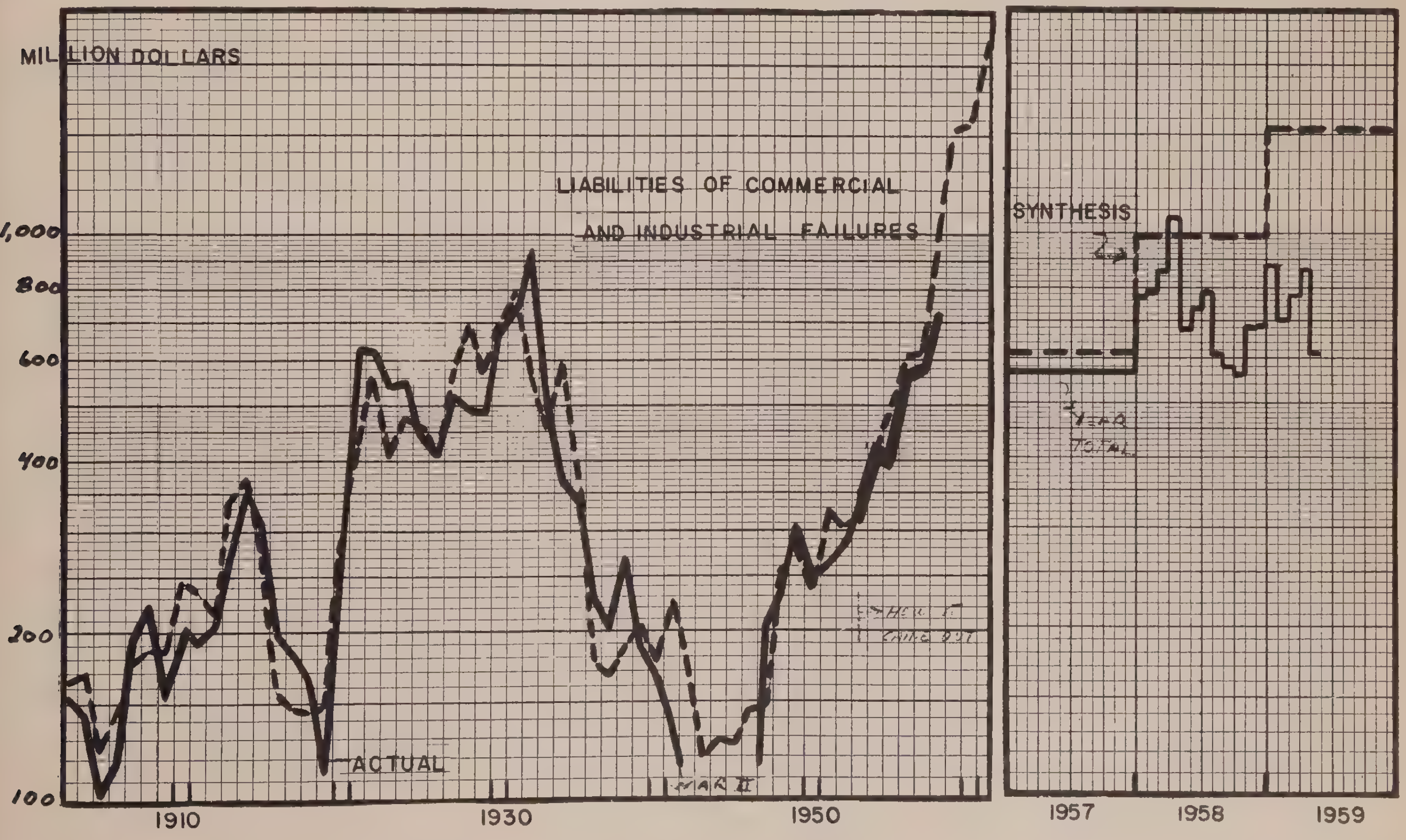
1959 – Apr – 159
May 173



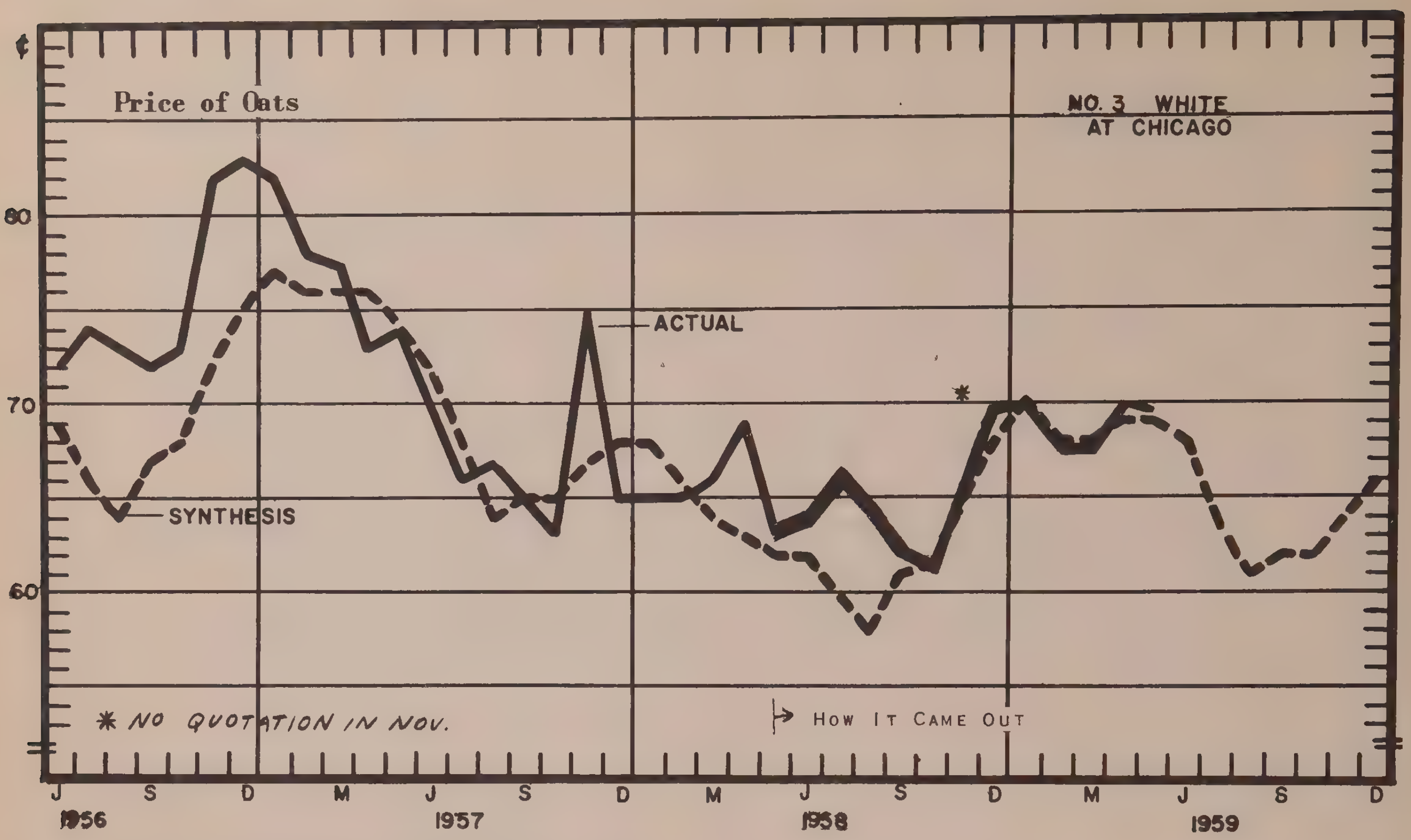
LIABILITIES OF FAILURES

We have isolated five cycles in the liabilities of commercial and industrial failures. The broken line on the chart is the combination of these cycle together with the underlying trend and an inflation index.

Liabilities during the month of May were 50.9 million dollars.



OATS PRICES



MANUFACTURING PRODUCTION

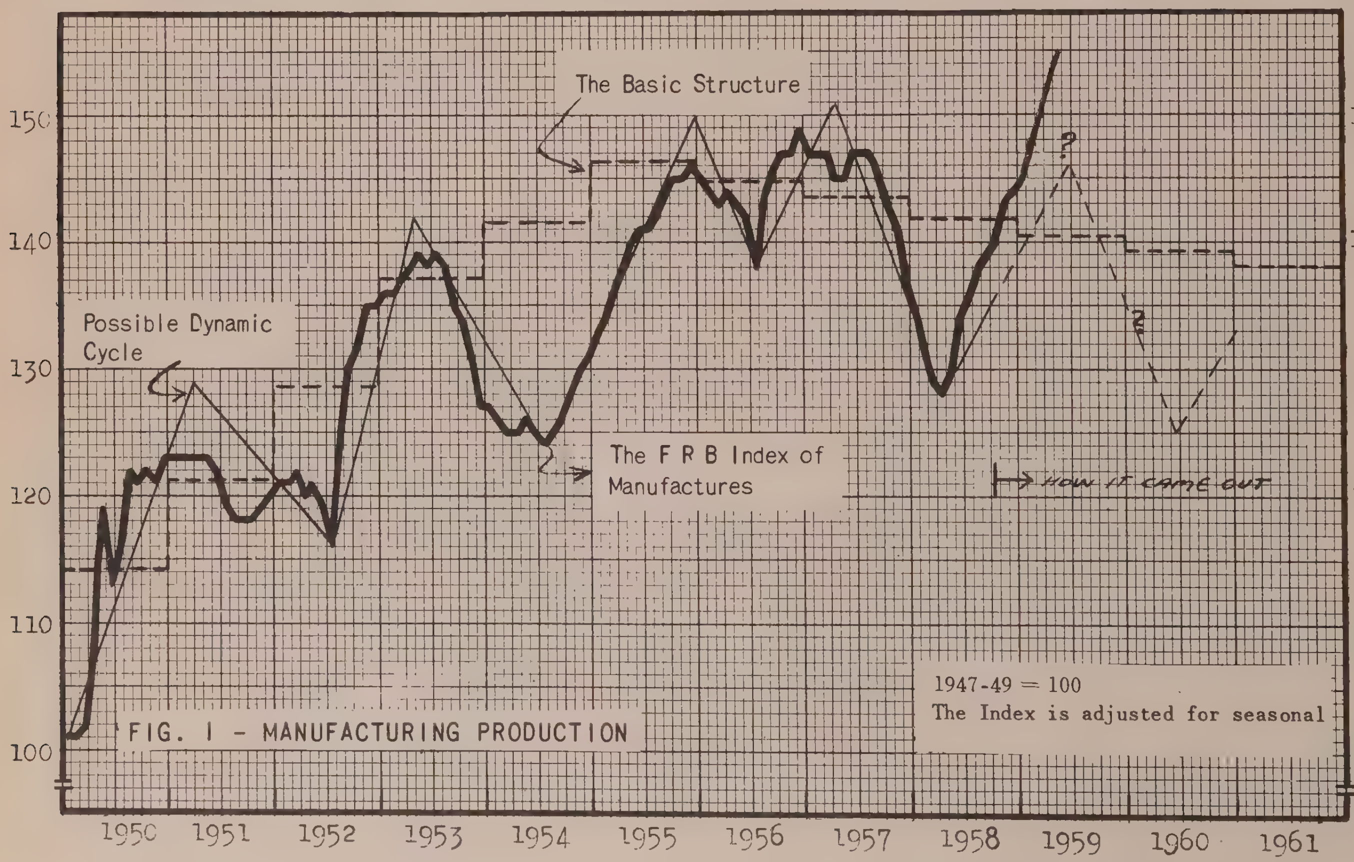


FIG. I - MANUFACTURING PRODUCTION

COPPER PRICES

We have isolated six cycles which are present in the price of electrolytic copper at New York. The combined cycles are shown on the chart below as the broken line.

The cycles are:

Length	% Above Trend At High	Date of Ideal High
32.36 mo.	2.33%	1958.4
8.6 yr.	11.9	1950.8
9.28 yr.	14.3	1956.0
12.53 yr.	8.4	1953.03
14.8 yr.	5.7	1960.7
54.0	39.	1971.75

The 54-year cycle has not yet been included in the combination, but it is now on the way up toward an ideal high due in 1971. The underlying trend has also not been included in the combination shown on the chart. The long-term trend of copper prices is downward, and at the current time the downward trend and the upward 54-year cycle cancel each other to some extent.

The actual price of copper is shown by the solid line. The quarterly averages of the monthly figures from 1953 through the first quarter of 1959 are given, as well as the monthly figures beginning with 1957.

Recent actual average monthly prices of electrolytic copper bars at New York City have been:

1959	Mar	31.03 cents/pound
	Apr	31.30
	May	31.16

The actual bottom in prices came four quarters after the ideal bottom, and the current top is delayed three quarters so far.

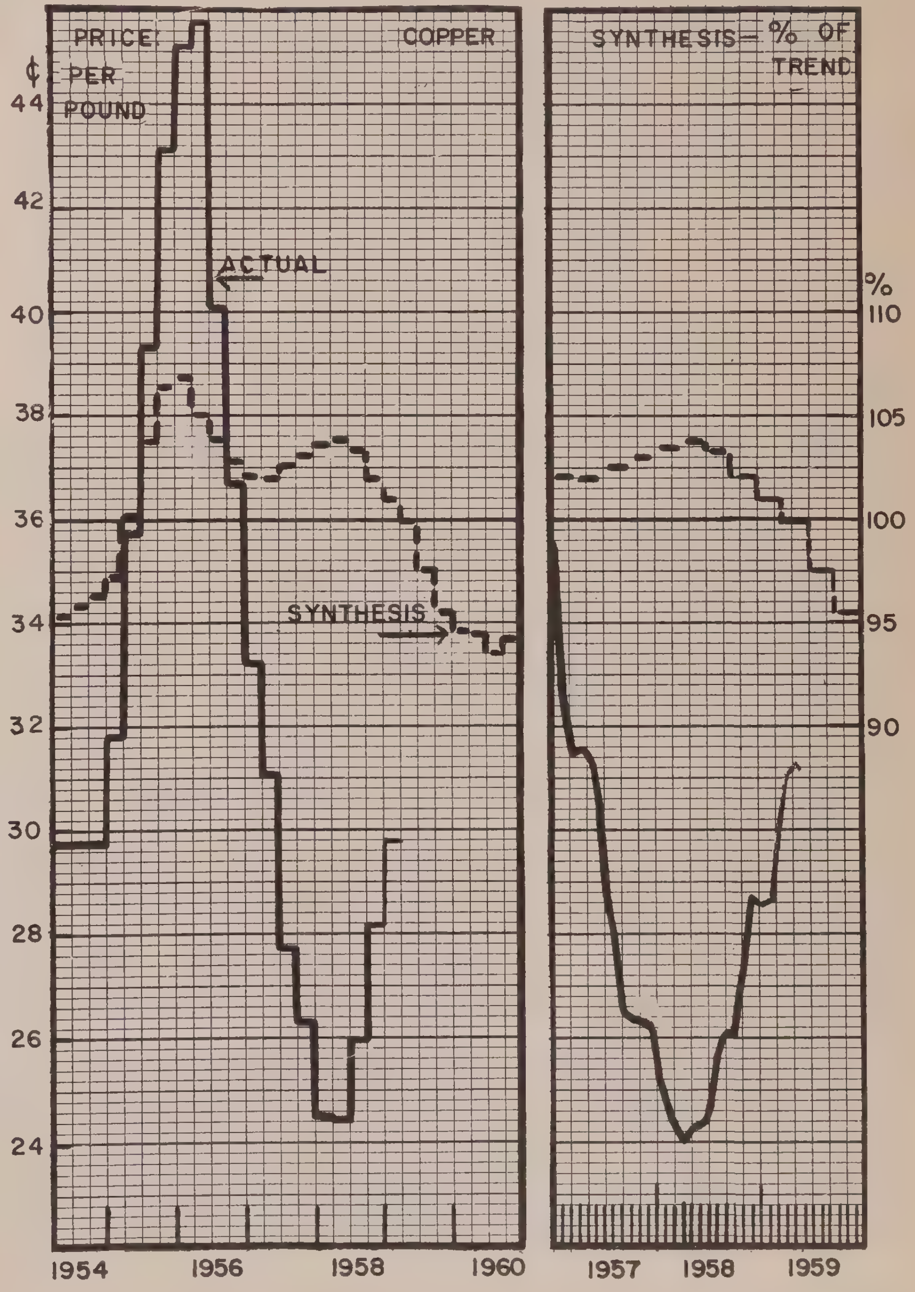
The next low point in the cycle combination is scheduled for the third quarter of 1960. How soon the actual price of copper will again begin to correspond to the contour of the line of the combination of the cycles is anybody's guess; the figures should be watched while we follow a wait-and-see policy.

Copper prices have a record of occasional precipitous declines. When a drop in copper prices develops momentum, it may by its own force overwhelm all considerations, including cycles.

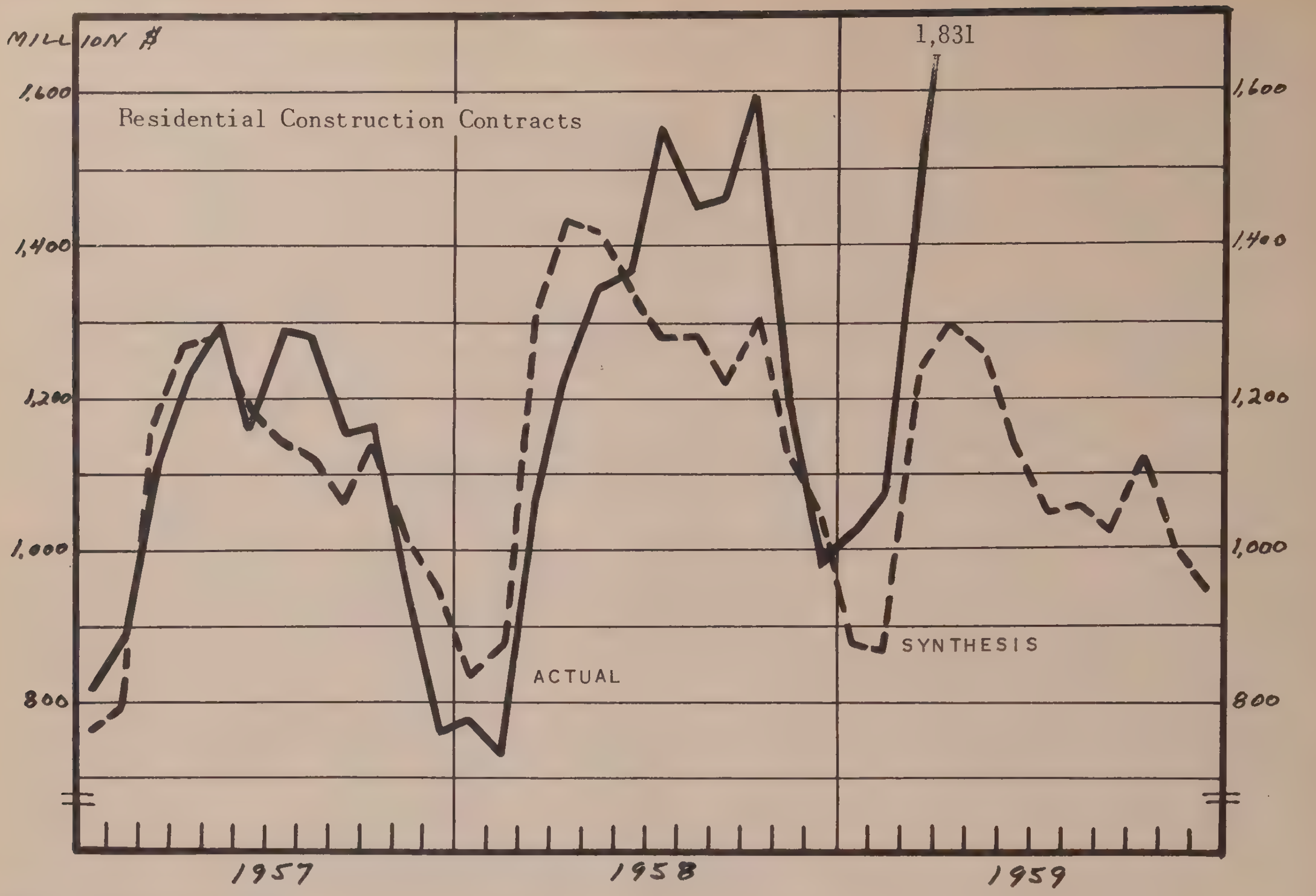
The analysis covered the period 1784—1954 and of course we would not have included the particular cycles we did had they not been present with reasonable consistency over that long period. The presence of the cycles over a 170 year period leads to the assumption that they will continue to operate, and that the current disturbance is temporary.

Obviously, factors which are random to cycle analysis, but not to copper prices, overpowered the cycles and kept pushing the price lower and lower.

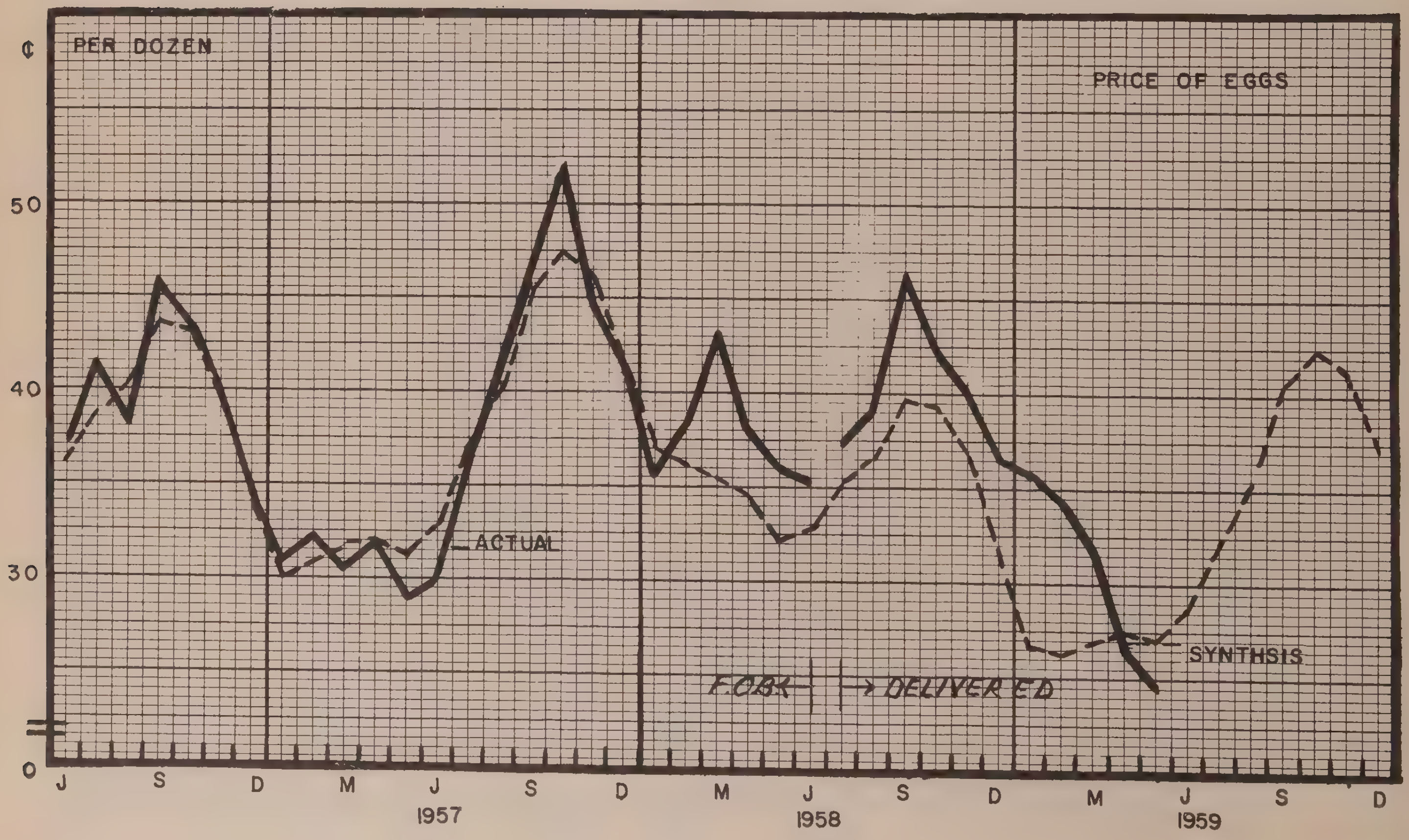
Nor is it unusual for a wild move, once underway, to continue of its own momentum, regardless of the cycles which had operated previously, and will operate again in the future.



RESIDENTIAL BUILDING



EGG PRICES



BAROMETRIC PRESSURE AT NEW YORK CITY

The chart below brings up to date the record of barometric pressure at New York City.

Barometric pressure at the New York Station has exhibited a cycle which has been 7.6-years long, on the average, since 1873.

The average experience, the ideal cycle, is diagrammed on the chart as a broken line.

This pattern has a typical amplitude of .010 inches of mercury above and below trend. It has a trough at September-October 1954, and a top at July 1958.

Actual barometric pressure, smoothed by a three-year moving average, is shown by the solid line on the chart. The latest figure is shown alone as a dot. The figures which are used are the annual averages of pressure.

But the original data are so erratic in appearance that the smoothing is necessary to show the cycle clearly.

Any point on the solid line is the average of three years: the year of the point, the year before, and the year after.

The last point on the line, which is plotted at 1958, is the average of 1957, 1958, and 1959. The dot represents the 1958 annual average alone.

This wave is fairly dominant in these figures—the process by which it is revealed being an unusually simple one. The manipulation which is used to reveal a cycle is ordinarily much more complicated than a simple smoothing of the raw figures.

The actual average annual barometric pressure at New York City for the last ten years has been:

Year	29 Inches Plus
1949	.730
1950	.700
1951	.680
1952	.660
1953	.660
1954	.640
1955	.670
1956	.670
1957	.710
1958	.690

The last ideal low and the actual low both come in 1954. If 1957 proves to be the high year the actual current top will be a year early as the ideal top is at 1958.

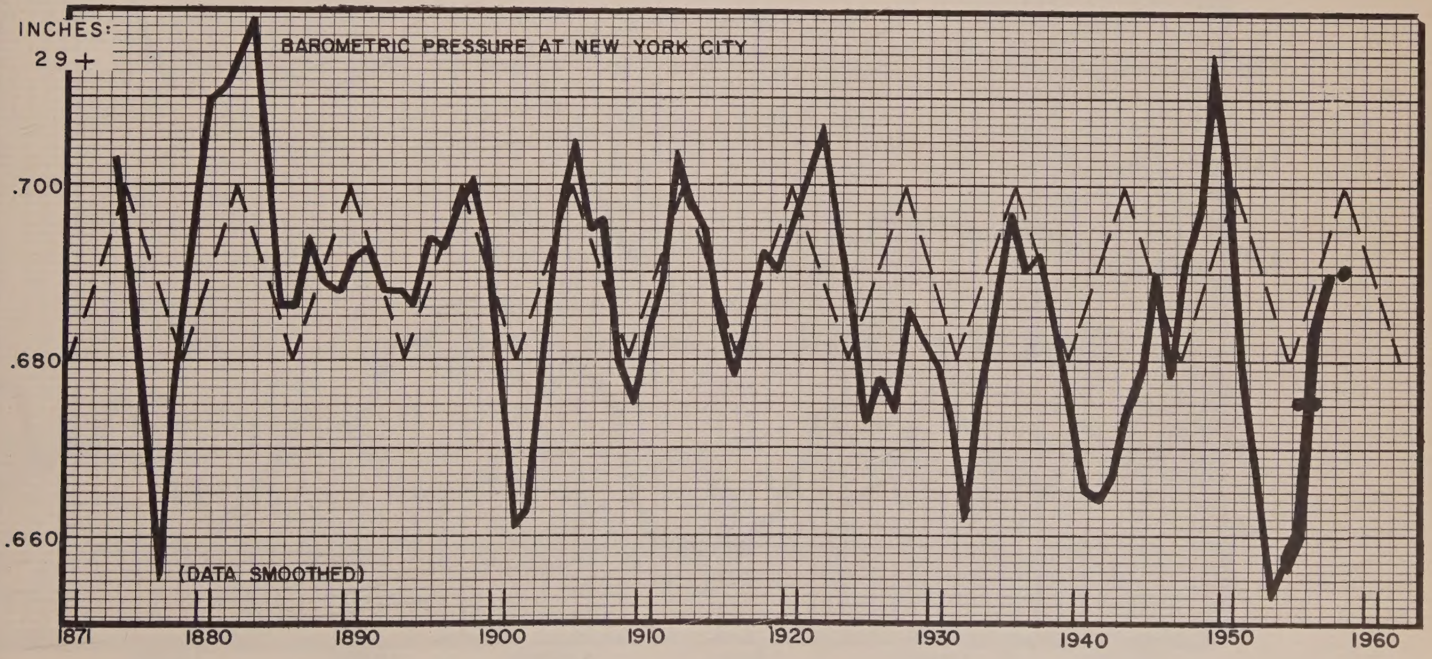
Of course the actual year of high or low does not necessarily correspond to the ideal year of high or low. The correspondence that does exist between the actual and the ideal turning points is a fundamental measure of the reliability of a cycle.

In this case, of the 22 turning points (not counting the 1958 high), a total of 7 have been on time, and 10 have been a year early or late. Thus, in 17 out of 22 possibilities, the smoothed actual figures have turned within a year of the ideal turn.

If 1957 is the high year at this turn, the total will be 18 out of 23, or 78%.

It is interesting to note that H. H. Clayton found a 7.54-year cycle in barometric pressure from the far northern latitudes of Siberia to the tropics. The lengths are close enough that we can assume it is the same wave.

The first reaction to this tidbit of information may be, "So what?" Yet it cannot be denied that long-range weather forecasting is becoming increasingly necessary, and it can hardly be done without tools of this sort.



The Geisinger Indicator

FORECAST

The seasonally adjusted Index of Industrial Production prepared by the Federal Reserve Board reached a new high again in May when the Index was 152. The Federal Reserve Board also revised the previously reported April Index up to 150.

The *rate* of increase, measured by the First Difference Indicator, was 2.33 in April.

The Geisinger Indicator for February (October when advanced was up to 3.2.

The Modified Geisinger Indicator moved up to 4.70 in February (October when advanced).

Although all three Indicators went up in terms of arithmetic, when viewed on a chart as part of the general sweep of the last 7 months, the overall move is sideways, and slightly downward. This indicates continued high production, with some leveling possible. In other words—the analysis does not point toward a severe slump in physical production over the next quarter.

Production will, of course, decline if there is a steel strike; the Indicators cannot estimate the effect of a major strike.

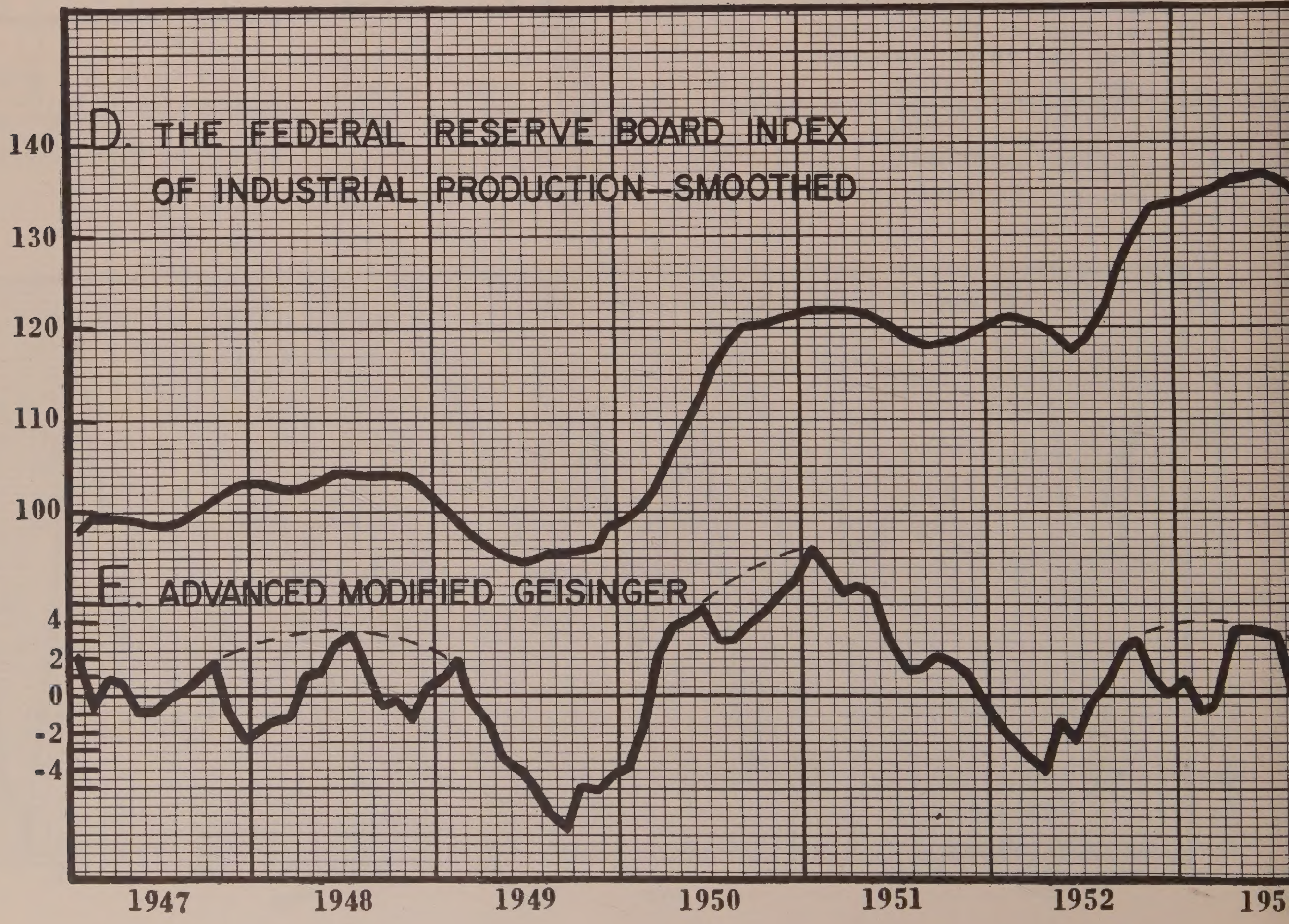
June 24, 1959 E. R. Dewey

Month	F.R.B. Index	Geisinger Indicator	First Difference Indicator	Modified Geisinger Indicator	Timing Advanced 8 Months
Nov-1958	141	3.2	1.66	4.86	1959-Jul
Dec	142	2.6	1.67	4.27	Aug
Jan-1959	143	2.2	1.50	3.70	Sep
Feb	145	3.2	1.50	4.70	Oct
Mar	147	*	2.00r	*	Nov
Apr	150r	*	2.33p	*	Dec
May	152p	*	*	*	1960-Jan

p - preliminary

* - not yet available

r - revised



BACKGROUND

Explanation

The Modified Geisinger Indicator is an index which, in the past, has usually gone up and down ahead of the Federal Reserve Board Index of Industrial Production. The Modified Geisinger Indicator thus throws some light on the future.

The Modified Geisinger Indicator is the sum of the Geisinger Indicator and The First Difference Indicator.

The Geisinger Indicator was invented by Robert Geisinger. It is derived from figures which are published monthly in the **Survey of Current Business.** (Col. 2 of the table.)

The First Difference Indicator, is merely the amount by which the smoothed F. R. B. Index is above or below the value for the preceding month. It registers the *rate* of advance or decline. It has some forecasting value, too. (Col. 3 of the table.)

The sum of these two Indicators is the *Modified* Geisinger Indicator. (Col. 4 of the Table.) It is advanced by eight months and plotted as the bottom line of the chart.

The P. R. B. Index of Industrial Production measures physical production in the U. S. A. (Col. 1 of the Table.) It has nothing to do with stock prices.

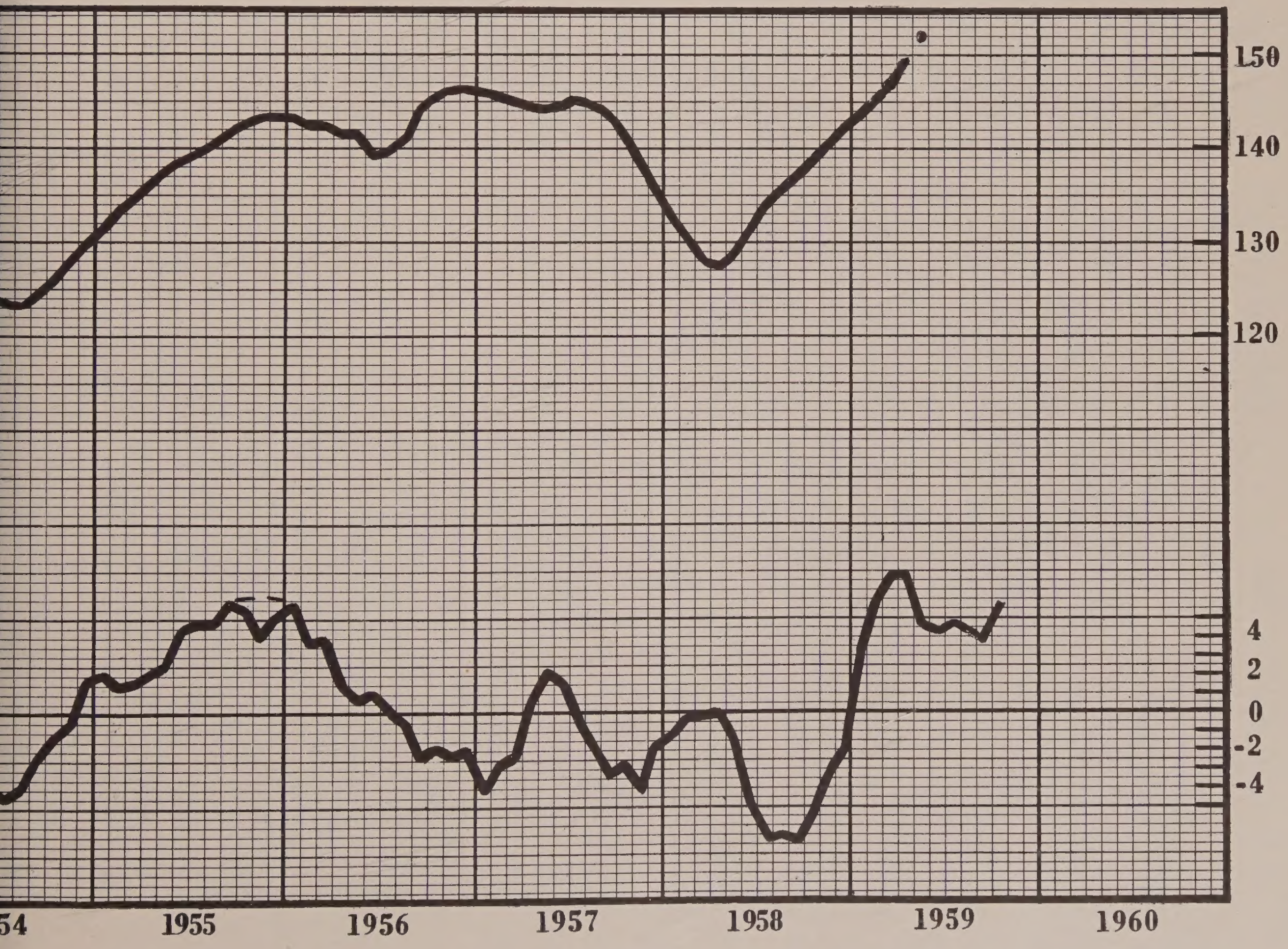
The smoothed values of the F. R. B. Index are plotted as the top line on the chart. It is smoothed by a 3-month moving average posted to the second position. The latest actual monthly Index of Production is recorded by a dot.

Interpretation

In the past, when the *Geisinger* Indicator going up, has cut 2, good business has followed; when, going down, it has cut 2, bad business has followed.

The important *turns* of the *Geisinger* Indicator and the *Modified* Geisinger Indicator often come 8 or 9 months before corresponding turns in Industrial Production. This fact gives some idea of what is around the corner. To help you to grope your way into tomorrow the Modified Geisinger Indicator is advanced 8 months. Where it is now, Industrial Production may soon be.

The degree to which the two curves correspond can be seen by inspection of the chart. The correspondence is general rather than specific. It is the broad sweep of the lines which is to be watched. The dashed lines which are added show how the eye should follow the Indicator.



H A MUSHAM
741 N RUSH ST
CHICAGO, ILL